FACTORS AFFECTING ADOPTION OF MOBILE MARKETING:
A COMPARATIVE STUDY OF SYRIA AND INDIA

ABSTRACT
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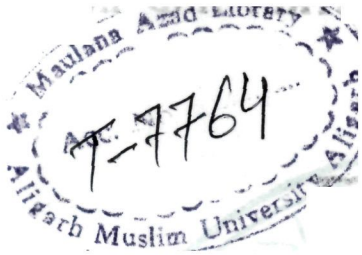
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ABSTRACT

Introduction

Competing for consumers' attention in cluttered advertising environment leaves marketers searching for new, innovative and effective platforms to convey commercial messages to target audiences. In this backdrop, mobile phones are being considered a powerful new medium to reach out to consumers. But there are issues that need to be explored to delineate factors affecting adoption of mobile marketing by the target consumers. Marketers are therefore interested in continually updating themselves through research so as to address the inhibiting factors.

According to Ticehurst and Veal (2000), culture can influence the outcomes of the research. The findings of any research are not necessarily applicable to other countries. Thus, conducting a comparative study between India and Syria to understand the extent to which cultural differences have a bearing on adoption of mobile phone based advertising and services in these two countries was considered necessary. The study attempts to provide much needed insights into behavioural intentions leading up to adoption of mobile advertising and services in India and Syria.

Telecommunication Scenario in India & Syria

According to the Telecom Regulatory Authority of India (TRAI), there were 488.40 million wireless subscribers in October 2009 in India (Table 1). It is now the second-largest subscriber market in the world after China (720 million). Wireless tele-density is at 42.4 per cent now (The Economic Times, 23 Dec, 2009). In November 2009, aided by low tariff plans like per-second billing, GSM operators added 11.64 million new mobile subscribers. Bharti Airtel is the largest player while Reliance Communications is the second largest with 113.43 and 86.82 million subscribers, respectively.

Syria's telecommunications sector, despite developed infrastructure, remains highly regulated with some of the region's highest tariffs. Still, 7 million Syrians – 38% of the country's population – own a mobile phone. Syriatel accounts for 55 percent of the market and MTN makes up the rest (Birke, 2009).

The current policy of reforms in Syria's telecommunications sector is expected to spark increased interest in the country's telecommunication market. With the number of mobile subscribers in Syria having reached 7.3 million in July 2009, the penetration rate stands at 36.2 % (Table 1). Despite good growth, a number of factors continue to inhibit mobile adoption. Some non-urban areas of Syria are not covered by mobile networks and the high cost of local services compared to regional markets is one of the biggest hurdles.

Table 1: Mobile Penetration and Growth Rates in India and Syria

	Population (in millions)	Subscribers (in millions)	Penetration Rate %	Subscribers Growth % (2002-2009)
India	1152	488.40	42.4	1,726
Syria	20.17	7.30	36.2	3,749

Source: Euromonitor International, 2009

Research Problem

Understanding how marketers should interact with their customers and deliver services in electronic environments is of decisive importance (Parasuraman and Zinkhan 2002). The development of mobile services has been intense for years but adoption has not progressed as expected (Carlsson *et al.*, 2006). On the other hand, the development of mobile advertising is still in its early stages and poses challenges both in terms of technology and business implications. Some researchers argue that it can even impede the prevalence of mobile advertising (Facchetti, Rangone, Renga, & Savoldelli, 2005). According to Merisavo *et al.* (2007) the factors that induce consumers to accept mobile devices as an advertising medium are not yet fully understood.

Most of the theories/models of technology adoption have been developed, modified, and extended in the context of USA. Thus, an issue in focus is whether these can be used in other countries, especially in India and Syria. According to Straub & Brenner (1997), culture has often been argued to be a significant construct impacting IT adoption (Straub & Brenner, 1997).

In the light of the above, to understand the factors affecting the adoption of mobile advertising and services, it was thought necessary to carry out the present study.

Objectives of the Study

The study had two broad objectives. *Firstly*, to review literature on mobile advertising and services adoption in the context of theories and models of individual adoption of information technology. *Secondly*, to propose and validate adoption models of mobile advertising and mobile services in the context of India and Syria. Keeping the above two broad objectives in mind, the following specific research objectives were considered for the study:

1. To review literature on mobile advertising and services adoption in the context of theories and models of individual adoption of information technology viz. Innovations Diffusion Theory (IDT) (Rogers, 1983, 1995), Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980), Theory of Planned Behaviour (TPB) (Ajzen, 1985), Technology Acceptance Model (TAM) (Davis, 1989; Davis, Bagozzi & Warshaw 1989), and the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh, Morris, Davis & Davis, 2003).
2. To investigate the factors that influence intention of consumers to adopt mobile advertising and services in India and Syria.
3. To propose and test adoption models for mobile advertising for each of the two countries.
4. To propose and test adoption models for mobile services for each of the two countries.
5. To examine the effect of gender on mobile advertising and service adoption in India and Syria.
6. To investigate the differences between Indian and Syrian respondents for mobile advertising and service adoption.

Current Approaches to Consumer Adoption of Mobile Advertising and Services

A large number of researchers have approached the adoption of mobile advertising and services from the perspective of technology acceptance theories

and models (Amberg, Hirschmeier, & Wehrmann, 2004; Brwon , Cajee, Davies , & Stroebel, 2003; Carlsson, *et al.*, 2005; Carlsson, *et al.*, 2006; He & Lu, 2007; Hsu, Lu, & Hsu, 2007; Hung, Ku & Chang, 2002; Knutsen, 2005; Lee *et al.*, 2002; Park, Yang, & Lehto, 2007; Pagani, 2004; Kwon & Chidambaram, 2000; Pedersen, Methlie & Thorbjornsen, 2002; Samtani, Tze, Hoon & Gin, 2003; Teo & Pok, 2003; Turel *et al.*, 2007). While others have attempted to provide conceptual models of customers' willingness to accept mobile advertising and services (Bauer, Reichardt, Barnes, & Neumann, 2005; Dickinger *et al.*, 2004; Haghirian *et al.*, 2005; Hsu *et al.*, 2007; Leppäniemi & Karjaluoto, 2005; Turel *et al.*, 2007); conceptualized success factors (Bouwman, Carlsson, Molina-Castillo, & Walden, 2007; Dickinger *et al.*, 2004; Drosos & Giaglis, 2004; Merisavo, *et al.*, 2007; Scharl, Dickinger, Murphy, 2005); examined the effectiveness empirically (Barwise & Strong, 2002; Drossos *et al.*, 2007; Haghirian *et al.*, 2005; Bauer *et al.*, 2005); compared different approaches for mobile advertising (Bulander, Decker, Schiefer, & Kolmel, 2005); examined privacy issues in mobile advertising (Cleff, 2007), categorized mobile marketing campaigns (Pousttchi & Wiedemann, 2006); analyzed the emerging industry (Kavassalis, Spyropoulou, Drossos, Mitrokostas, Gikas, & Hatzistamatiou, 2002); and some have discussed business models (Komulainen, Mainela, Sinisalo, Tähtinen, & Ulkuniemi, 2005). Concepts like relative advantage/usefulness/utility, subjective norm/social value/normative pressure/peer influence/social influence, compatibility, complexity/ease of use, privacy, risk, trust, sacrifice, attitude, control, permission, facilitating condition, self-efficacy, and triability play a key role in approaches adopted by these researchers.

Theories and Models of Adoption

Various models originating from different disciplines have attempted to explain factors that affect innovation adoption and usage. These theories have alternately been used to explain possible adoption and acceptance patterns of emerging new mobile technologies and services among consumers:

1) The Theory of Reasoned Action (TRA) proposed by Fishbein and Ajzen (1975) posits that individual's attitude toward the behaviour and subjective norms surrounding the performance as a direct determinant of behavioural intention.

2) The Theory of Planned Behaviour (TPB) proposed by Ajzen (1985) posits that behavioural intention is a function of an individual's attitude toward the behaviour, the subjective norms surrounding the performance of the behavior, and the behavioral control.

3) Technology Acceptance Model (TAM) proposed by Davis (1989) posits that usefulness and ease of use will have a significant impact on a user's attitude toward using the system and both the attitude and the usefulness will have a significant impact on the behavioural intention.

4) Diffusion of Innovation Theory (DIT) proposed by Rogers (1995) posits that relative advantage, compatibility, complexity, trialability and observability as the most important characteristics of an innovation explaining why it is being adopted.

5) The Unified Theory of Use and Acceptance of Technology (UTUAT) proposed by Venkatesh *et. al.* (2003) posits that performance expectancy, effort expectancy and social influence as direct determinants of intention to use.

Theoretical Framework of the Study

Measurement of behaviour intention as a predictor of future usage behaviour is important as a key dependent variable in order to predict usage behaviour in the future (Ajzen, 1985; Ajzen & Fishbein, 1980; Davis *et al.*, 1989). Thus, in this study, *intention to adopt* was considered as a key dependent variable.

Factors pertaining to user adoption have been identified from technology acceptance/adoption theories/models (Ajzen & Fishbein, 1980; Ajzen, 1985; Davis, 1989; Rogers, 1983; Venkatesh, *et al.*, 2003) as well as from previous research (Bauer *et al.*, 2005; Carlsson *et al.*, 2006; Hsu *et al.*, 2007; Okazaki, 2007a; Merisavo *et al.*, 2007; Moore & Benbasat, 1991; Sweeney & Soutar, 2001).

Key factors associated with both mobile advertising and services that have been considered include *attitude towards mobile advertising and services* (Ajzen, 1985; Davis, 1989; Davis *et al.*, 1989; Fishbein & Ajzen, 1975; Taylor & Todd, 1995b); *subjective norm* (Ajzen, 1991; Ajzen & Fishbein, 1980); *perceived usefulness* (Davis, 1989; Rogers, 1983, 1995); *compatibility* (Rogers, 1983, 1995); *personal innovativeness* (Leung & Wei, 1998; Lin, 1998; Lin & Jeffres, 1998; Li, 2003; Rogers, 1995). The study also considered certain factors associated with mobile advertising only viz. *control of mobile advertising* (Leppäniemi & Karjaluoto 2005; Nysveen *et al.*, 2005b); *attitude towards mass media advertisements* (Fishbein & Ajzen, 1975; Taylor & Todd, 1995b); and *awareness of mass media advertisements* (Okazaki, 2007a).

Therefore, the proposed research model for adoption of mobile advertising model (Figure 1) consists of eight core constructs viz. attitude towards mobile advertising (AA), subjective norm for mobile advertising (SA), perceived usefulness of mobile ads (UA), compatibility with mobile ads (CA), personal innovativeness (IN), control of mobile ads (C), attitude towards mass media advertising (AM), and awareness of mass media ads (AW). Moreover, we considered one dependent variable which is the intention to adopt mobile advertising (IA).

Based on the proposed adoption research of mobile advertising model (Figure 1), the following hypotheses were tested: Whether mobile advertising factors (AA, SA, UA, CA, IN, C, G and AW) have an influence on intention to adopt mobile advertising (IA).

On the other hand, the proposed research model for adoption of mobile services (Figure 2) consists of five core constructs. They include attitude towards mobile Services (AS), subjective norm for mobile service (SS), perceived usefulness of mobile services (US), Compatibility with mobile services (CS) and Personal innovativeness (IN). Moreover, we considered one dependent variable which is the behavioural intention to adopt mobile services (IS). On the other hand, based on the proposed research model for adoption of mobile services the following hypotheses were tested: Whether mobile service factors (AS, SS, US, CS and IN) have an influence on intention to adopt mobile advertising (IS).

Figure 1: The Proposed Research Model for Adoption of Mobile Advertising

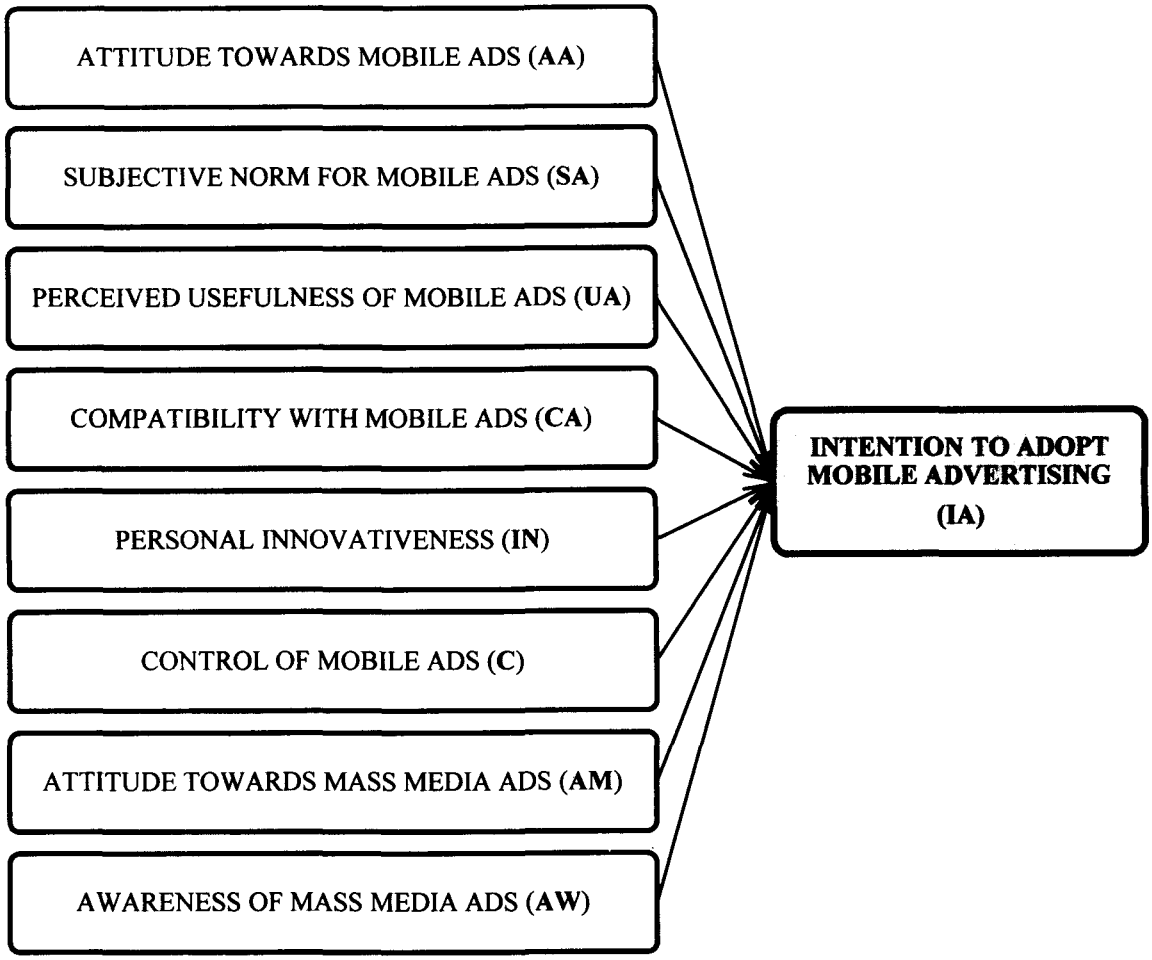
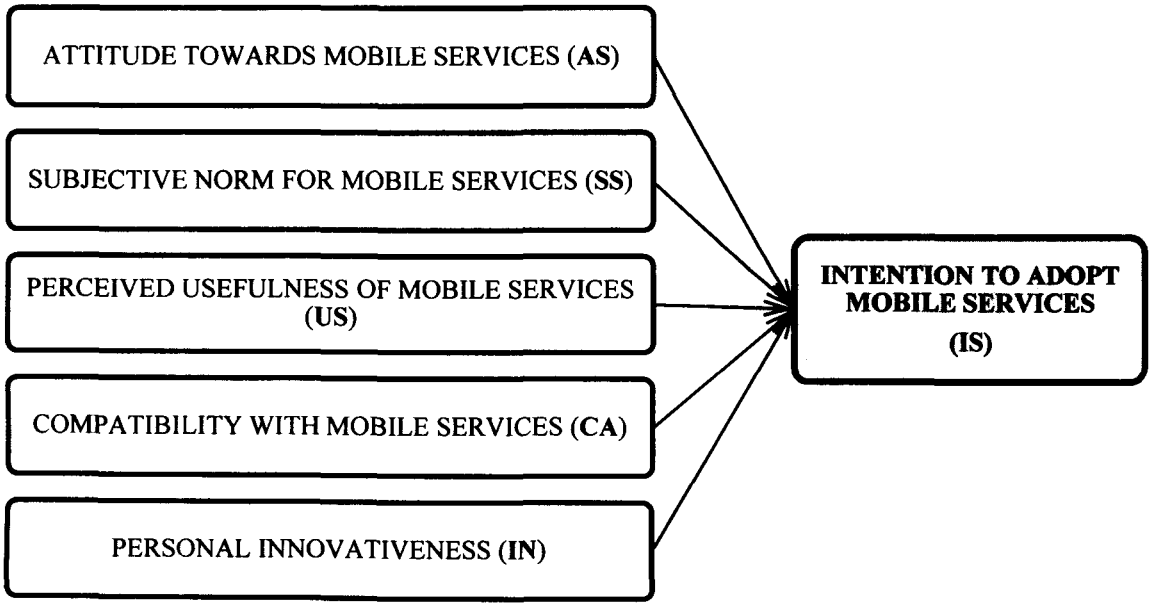


Figure 2: The Proposed Research Model for Adoption of Mobile Services



Research Hypotheses

The hypotheses have been divided into two sections: the *first section* lists hypotheses related to mobile advertising while the *second section* lists hypotheses related to mobile services. The hypotheses in each section have further been categorized into three groups. Groups A_A, B_A, and C_A come under mobile advertising section, whereas, groups A_S, B_S, and C_S come under mobile services section. The hypotheses in Groups A_A and A_S contain hypotheses related to testing significant differences between the Indian and the Syrian respondents vis-a-vis each construct. In Groups B_A and B_S, the hypotheses are related to investigating the differences with respect to gender for each construct. Lastly, the hypotheses in Groups C_A and C_S are related to testing of the direct paths between key factors and behavioural intention.

Hypotheses Related to Mobile Advertising

1) Group A_A

These hypotheses test the significant differences between Indian and Syrian respondents with respect to nine constructs (AA, SA, UA, CA, IN, C, AM, AW, & IA) considered in the study.

H_{1AA} Significant differences do not exist between Indian and Syrian respondents regarding attitude towards mobile ads (AA).

$H2_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding subjective norm for mobile ads (SA).

$H3_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding perceived usefulness of mobile ads (UA).

$H4_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding compatibility with mobile ads (CA).

$H5_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding personal innovativeness (IN).

$H6_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding control of mobile ads (C).

$H7_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding attitude towards mass media ads (AM).

$H8_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding awareness of mass media ads (AW).

$H9_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding intention to adopt mobile ads (IA).

2) Group B_A

These hypotheses test the influence of gender on the nine constructs (AA, SA, UA, CA, IN, C, AM, AW, & IA) considered in this study.

***H1*$_{BA}$** Significant differences do not exist between respondents based on gender regarding attitude towards mobile ads (AA).

***H2*$_{BA}$** Significant differences do not exist between respondents based on gender regarding subjective norm for mobile ads (SA).

***H3*$_{BA}$** Significant differences do not exist between respondents based on gender regarding perceived usefulness of mobile ads (UA).

***H4*$_{BA}$** Significant differences do not exist between respondents based on gender regarding compatibility with mobile ads (CA).

***H5*$_{BA}$** Significant differences do not exist between respondents based on gender regarding personal innovativeness (IN).

***H6*$_{BA}$** Significant differences do not exist between respondents based on gender regarding control of mobile ads (C).

***H7*$_{BA}$** Significant differences do not exist between respondents based on gender regarding attitude towards mass media ads (AM).

***H8*$_{BA}$** Significant differences do not exist between respondents based on gender regarding awareness of mass media ads (AW).

***H9*$_{BA}$** Significant differences do not exist between respondents based on gender regarding intention to adopt mobile ads (IA).

3) Group C_A

The following hypotheses were considered for testing the significance of direct paths between eight key factors (AA, SA, UA, CA, IN, C, AM, & AW) and intention to adopt mobile advertising (IA).

***H1*$_{CA}$** Attitude towards mobile ads (AA) has direct and significant influence on intention to adopt mobile ads (IA).

***H2*$_{CA}$** Subjective norm for mobile ads (SA) has direct and significant influence on intention to adopt mobile ads (IA).

***H3*$_{CA}$** Perceived usefulness of mobile ads (UA) has direct and significant influence on intention to adopt mobile ads (IA).

***H4*$_{CA}$** Compatibility with mobile ads (CA) has direct and significant influence on intention to adopt mobile ads (IA).

***H5*$_{CA}$** Personal innovativeness (IN) is positively related to intention to adopt mobile ads (IA).

$H6_{CA}$ Control of mobile ads (C) has direct and significant influence on intention to adopt mobile ads (IA).

$H7_{CA}$ Attitude towards mass media ads (AM) has direct and significant influence on intention to adopt mobile ads (IA).

$H8_{CA}$ Awareness of mass media ads (AW) has direct and significant influence on intention to adopt mobile ads (IA).

Hypotheses Related to Mobile Services

1) Group A_S

The following hypotheses were considered for testing the significant differences between Indian and Syrian respondents regarding six constructs (AS, SS, US, CS, IN, & IS) of this study.

$H1_{AS}$ Significant differences do not exist between Indian and Syrian respondents regarding attitude towards mobile services (AS).

$H2_{AS}$ Significant differences do not exist between Indian and Syrian respondents regarding subjective norm for mobile services (SS).

$H3_{AS}$ Significant differences do not exist between Indian and Syrian respondents regarding perceived usefulness of mobile services (US).

$H4_{AS}$ Significant differences do not exist between Indian and Syrian respondents regarding compatibility with mobile services (CS).

$H5_{AS}$ Significant differences do not exist between Indian and Syrian respondents regarding personal innovativeness (IN).

2) Group B_S

The following hypotheses were considered for testing the significant influence of gender on five constructs (AS, SS, US, CS, IN, & IS) of this study.

$H1_{BS}$ Significant differences do not exist between respondents based on gender regarding attitude towards mobile services (AS).

$H2_{BS}$ Significant differences do not exist between respondents based on gender regarding subjective norm for mobile services (SS).

$H3_{BS}$ Significant differences do not exist between respondents based on gender regarding perceived usefulness of mobile services (US).

$H4_{BS}$ Significant differences do not exist between respondents based on gender regarding compatibility with mobile services (CS).

$H5_{BS}$ Significant differences do not exist between respondents based on gender regarding personal innovativeness (IN).

3) Group C_S

The following hypotheses were considered for testing the significance of direct paths between five key factors (AS, SS, US, CS, and IN) and the intention to adopt mobile services (IS).

H1$_{CS}$ Attitude towards mobile services (AS) has direct and significant influence on intention to adopt mobile services (IS).

H2$_{CS}$ Subjective norm for mobile services (SS) has direct and significant influence on intention to adopt mobile services (IS).

H3$_{CS}$ Perceived usefulness of mobile services (US) has direct and significant influence on intention to adopt mobile services (IS).

H4$_{CS}$ Compatibility with mobile services (CS) has direct and significant influence on intention to adopt mobile services (IS).

H5$_{CS}$ Personal innovativeness (IN) has direct and significant influence on intention to adopt mobile services (IS).

Research Methodology

Sample

The sample comprised students from public and private institutions located in India and Syria. The institutions covered included four from India viz. Aligarh Muslim University (AMU), Jamia Hamdard University (JH), Asia Pacific Institute of Management (APIM), and Jamia Millia Islamia (JMI) and five from Syria viz. Damascus University (DU), Damascus Open-learning University (DOU), Al-Kalamoon University (KU), Technological Institute of Business Administration and Marketing (TIBAM) and Higher Institute of Business Administration (HIBA). Keeping in mind the difficulties and costs of sampling, absence of sample frame and peculiar nature of research spanning two cultures, it was thought proper to adopt convenience sampling for generating data. Although such samples are not strictly representative, they are less likely to create any systematic bias (Douglas &Craig, 1983). Using university students as matched samples from the two countries also helped control the exogenous variables that might confound results of cross-cultural research (Straub, 1994). Final sample comprised 399 Indian and 500 Syrian respondents. It is to be noted that according to Wimmer & Dominick (2000), for multivariate studies, a sample size of 300 is considered to be good.

Questionnaire Design

Measurement items used in this research have been adapted from adoption theories and related research including that of Agarwal and Prasad (1998), Bauer, Barnes, Reichardt and Neumann (2005), Carlsson, Carlsson, Hyvönen, Puhakainen, and Walden (2006), Hsu, Lu, and Hsu (2007), Leavitt and Walton (1975), Merisavo *et al.* (2007), Moore and Benbasat (1991), Okazaki (2007a), Sweeney and Soutar, (2001), Sheehan and Hoy (1999, 2000), Davis (1989), Taylor and Todd (1995b), and Venkatesh, Morris, Davis, and Davis (2003). Keeping in mind the objectives of the study, some additional items were developed and included in the research instrument. Structured closed-ended questionnaire designed specifically for the study was personally administered by the researcher on the student respondents in the two countries i.e. India and Syria. English version questionnaire was administered in India whereas Arabic version questionnaire was administered in Syria. The questionnaire originally constructed in English was translated into Arabic language by using a double translation method (Marin & Marin, 1991). Pre-testing of the instrument was done to evaluate the items used in the questionnaire (Hair, Black, Babin, Anderson, & Tatham 2006) and to establish a scale's content validity (Hair *et al.*, 2003). Pilot survey was then used to test out all aspects of the survey and not just question wording (Ticehurst & Veal, 2000).

Statistical Techniques

The statistical techniques used in this research can be categorised into three groups. The *first* set of techniques was used to refine and test the reliability and validity of the research instrument by using Cronbach Alpha, inter-item correlation, item-total correlation, and principal component analysis (Hair *et al.*, 2006; Robinson, Shaver & Wrightsman, 1991; Sekaran, 2003). The *second* set of techniques was used to explore differences between groups by using T-tests and ANOVA (Malhotra, 2005; Pallant, 2005; Sekaran, 2003) and *third*, Structural Equation Modelling (SEM) was used to estimate interrelated dependence relationships (Hair *et al.*, 2006). This technique is helpful in generating a model of relationships among variables (Hayduk, 1987).

Scale Refinement

During scale refinement 15 items were dropped out from the Indian sample (AA3, AA5, AS3, AS5, UA2, UA3, US1, US4, CA1, CA2, CA5, IN3, AM3, AM4, and AW4); whereas, 17 items were dropped out from Syrian sample (AA4, AA5, AS4, AS5, IA2, IS2, UA1, UA4, US1, US4, CA1, CA2, CA5, IN3, AM3, AM4, and AW3). The retained items are presented in Table 2.

Table 2: Constructs of Mobile Advertising and Services

Construct	*No. of Items*	*Items of Mobile Advertising*		*Construct*	*No. of Items*	*Items of Mobile Services*	
		India	*Syria*			*India*	*Syria*
IA	3, 2	IA1 IA2 IA3	IA1 IA3	IS	3, 2	IS1 IS2 IS3	IS1 IS3
AA	3, 3	AA1 AA2 AA4	AA1 AA2 AA3	AS	3, 3	AS1 AS2 AS4	AS1 AS2 AS3
SA	3, 3	SA1 SA2 SA3	SA1 SA2 SA3	SS	3, 3	SS1 SS2 SS3	SS1 SS2 SS3
UA	3, 3	UA1 UA4 UA5	UA2 UA3 UA5	US	3, 3	US2 US3 US5	US2 US3 US5
CA	3, 3	CA1 CA2 CA3	CA1 CA2 CA3	CS	3, 3	CS1 CS2 CS3	CS1 CS2 CS3
C	3, 3	C3 C4 C6	C3 C4 C6	IN	3, 3	IN1 IN2 IN4	IN1 IN2 IN4
IN	3, 3	IN1 IN2 IN4	IN1 IN2 IN4				
AM	2, 2	AM1 AM2	AM1 AM2				
AW	3, 3	AW1 AW2 AW3	AW1 AW2 AW4				

Results of Hypotheses Testing

The results of hypotheses related to mobile advertising (Table 2) are presented below:

1) In Group A_A, three null hypotheses ($H4_{AA}$, $H5_A$ & $H9_{AA}$) were rejected out of nine ($H1_{AA} - H9_{AA}$).
2) In Group B_A, five null hypotheses ($H4_{BA}$, $H5_{BA}$, $H6_{BA}$, $H8_{BA}$ & $H9_{BA}$) were rejected out of nine ($H1_{BA} - H9_{BA}$).
3) In Group C_A (India), two null hypotheses ($H5_{CA}$ & $H7_{CA}$) were rejected out of eight ($H1_{CA} - H8_{CA}$).
4) In Group C_A (Syria), five null hypotheses ($H2_{CA}$, $H3_{CA}$, $H5_{CA}$, $H6_{CA}$ & $H8_{CA}$) were rejected out of eight ($H1_{CA} - H8_{CA}$).

Table 2: Results of Mobile Advertising Hypotheses Testing

Group A_A		**Group B_A**		**Group C_A**		
					India	**Syria**
H_{AA}	**Results**	**H_{BA}**	**Results**	**H_{CA}**	**Results**	**Results**
$H1_{AA}$	*NR*	$H1_{BA}$	*NR*	$H1_{CA}$	*NR*	*NR*
$H2_{AA}$	*NR*	$H2_{BA}$	*NR*	$H2_{CA}$	*NR*	*R*
$H3_{AA}$	*NR*	$H3_{AA}$	*NR*	$H3_{CA}$	*NR*	*R*
$H4_{AA}$	*R*	$H4_{BA}$	*R*	$H4_{CA}$	*NR*	*NR*
$H5_{AA}$	*NR*	$H5_{BA}$	*R*	$H5_{CA}$	*R*	*R*
$H6_{AA}$	*NR*	$H6_{BA}$	*R*	$H6_{CA}$	*NR*	*R*
$H7_{AA}$	*NR*	$H7_{BA}$	*NR*	$H7_{CA}$	*R*	*NR*
$H8_{AA}$	*R*	$H8_{BA}$	*R*	$H8_{CA}$	*NR*	*R*
$H9_{AA}$	*R*	$H9_{BA}$	*R*			

Note: *R = Rejected; NR = Not Rejected*

Results of hypotheses related to mobile services (Table 3) are presented below:

1) In Group A_S, two null hypotheses ($H4_{AS}$ and $H6_{AS}$,) were rejected out of six ($H1_{AS} - H6_{AS}$).
2) In Group B_S, three null hypotheses ($H4_{BS}$, $H5_{BS}$ & $H6_{BS}$) were rejected out of six ($H1_{BS} - H6_{BS}$).
3) In Group C_S (India), no null hypothesis was rejected out of five ($H1_{CS} - H5_{CS}$).
4) In Group C_S (Syria), one null hypothesis ($H4_{CS}$) was rejected out of five ($H1_{CS} - H5_{CS}$).

Table 3: Results of Mobile Services Hypotheses Testing

Group A_S		**Group B_S**		**Group C_S**		
					India	**Syria**
H_{AS}	**Results**	**H_{BS}**	**Results**	**H_{CS}**	**Results**	**Results**
$H1_{AS}$	*NR*	$H1_{BS}$	*NR*	$H1_{CS}$	*NR*	*NR*
$H2_{AS}$	*NR*	$H2_{BS}$	*NR*	$H2_{CS}$	*NR*	*NR*
$H3_{AS}$	*NR*	$H3_{BS}$	*NR*	$H3_{CS}$	*NR*	*NR*
$H4_{AS}$	*R*	$H4_{BS}$	*R*	$H4_{CS}$	*NR*	*R*
$H5_{AS}$	*NR*	$H5_{BS}$	*R*	$H5_{CS}$	*NR*	*NR*
$H6_{AS}$	*R*	$H6_{BS}$	*R*			

Note: *R = Rejected, NR = Not Rejected*

Key Findings

1) Differences between Indian and Syria Respondents

The results indicate that significant differences existed for (1) compatibility towards advertising, (2) compatibility towards services, (3) awareness of mass media advertising, (4) the intention to adopt mobile service, and (5) the intention to adopt the mobile advertising.

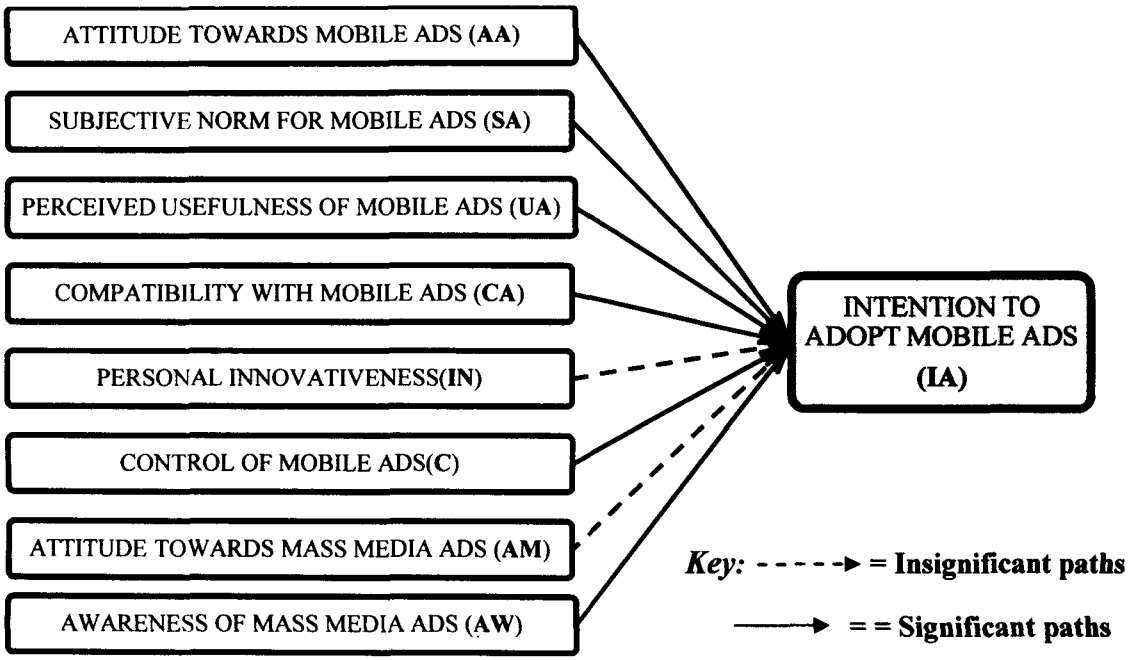
2) Differences between Genders for Indian and Syria Respondents

The results showed that significant differences existed for (1) compatibility with mobile advertising, (2) compatibility with mobile services, 3) personal innovativeness, 4) control (5) awareness of mass media advertising, (6) intention to use mobile advertising, and (7) intention to use mobile services.

3) Mobile Advertising Adoption Model for India (MAAMI)

MAAMI (Figure 3) posits six significant factors influence intention to adopt mobile advertising (IA) viz. (1) attitude towards mobile ads (AA), (2) subjective norm for mobile advertising (SA), (3) perceived usefulness of mobile ads (UA), (4) compatibility with mobile ads (CA), (5) controlling mobile advertising (C) and (6) awareness of mass media ads (AW) significantly influenced intention to adopt mobile ads for India.

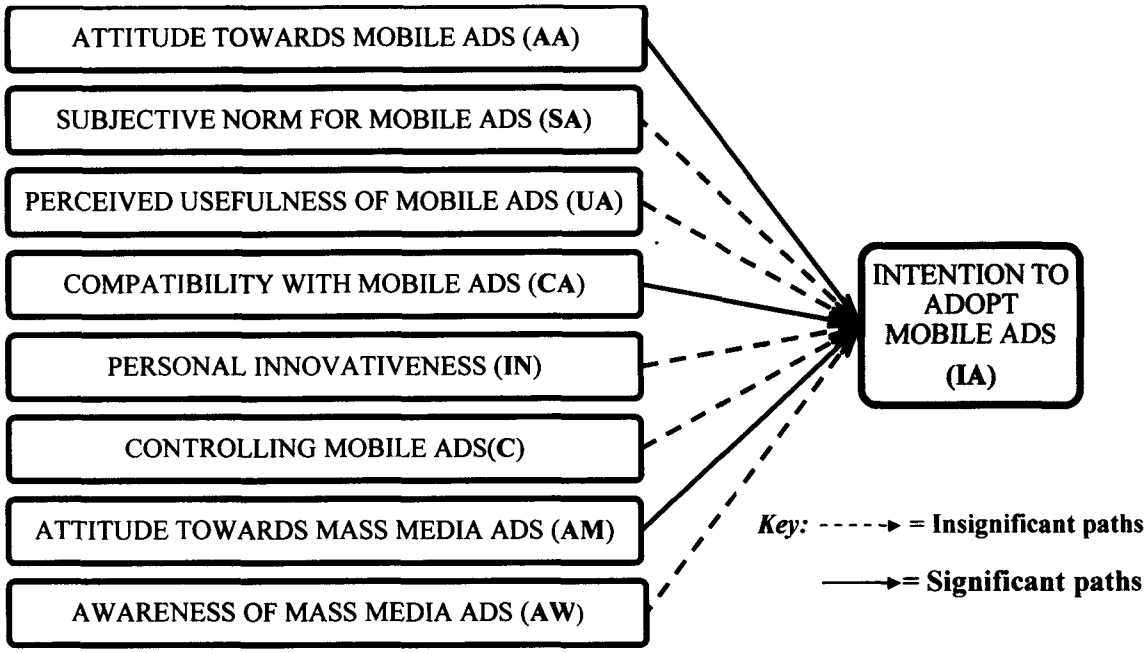
Figure 3: Mobile Advertising Adoption Model for India (MAAMI)



4) Mobile Advertising Adoption Model for Syria (MAAMS)

MAAMS (Figure 4) posits three significant factors influence intention to adopt mobile advertising (IA) viz. (1) attitude towards mobile ads (AA), (2) compatibility with mobile ads (CA) and (3) attitude towards mass media advertising (AM).

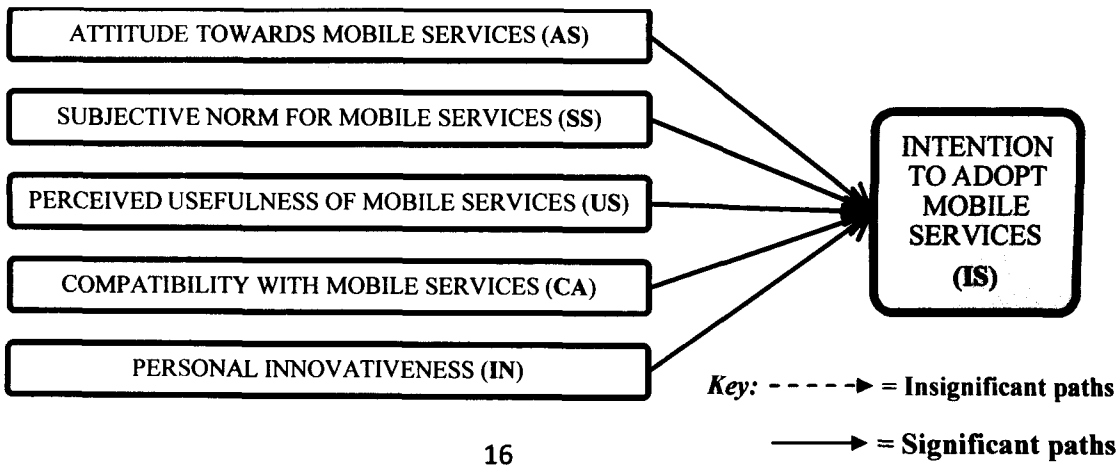
Figure 4: Mobile Advertising Adoption Model for Syria (MAAMS)



5) Mobile Services Adoption Model for India (MSAMI)

MSAMI (Figure 5) posits all factors proposed in the conceptual model influence intention to adopt mobile services viz. (1) attitude towards mobile services (AS), (2) subjective norm for mobile services (SS), (3) perceived usefulness of mobile services (US), (4) compatibility with mobile services (CA), and (5) personal innovativeness (IN).

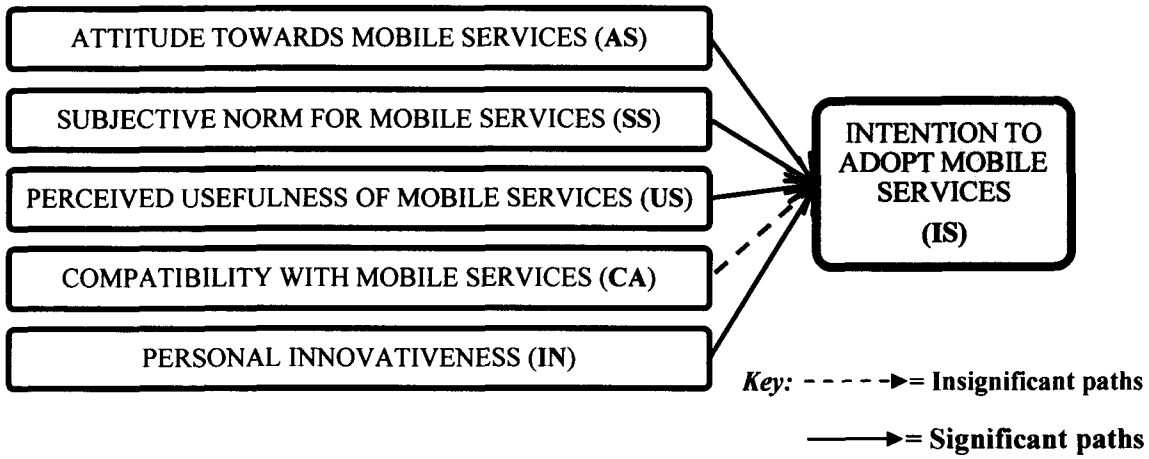
Figure 5: Mobile Services Adoption Model for India (MSAMI)



6) Mobile Services Adoption Model for Syria (MSAMS)

MSAMS (Figure 6) posits four significant factors influence intention to adopt mobile services viz. (1) Attitude towards mobile services (AS), (2) Subjective norm for mobile services (SS), (3) Perceived usefulness of mobile services (US), and (4) Personal innovativeness (IN).

Figure 6: Mobile Services Adoption Model for Syria (MSAMS)



Limitations of the Study

This study suffers from certain limitations which are discussed below. *Firstly*, a convenience sample of students was used in this research, which limits the generalizability of the findings. *Secondly*, the student respondents, who are more familiar with information technology than the general consumer population, might see mobile advertising and services as more acceptable than other samples. *Thirdly*, this study did not include many socio-demographic variables in our analysis; though the variable gender was considered. Other variables such as level of education, income profile, age, rural-urban, etc. could have been included in our analysis and which could have been of help in predicting the intention and adoption of mobile advertising and services. *Fourthly*, this study did not examine the causality and interrelationship between the factors influencing the intention. *Fifthly*, it did not consider the effect of gender as a moderating variable in the two models considered in the study. *Sixthly*, some amount of bias may have crept in as the samples from the two countries were not identical in terms of educational level. Majority of respondents from India were

enrolled in masters level programmes whereas most of the Syrian respondents were at graduation level. *Lastly*, although the mobile telecommunication infrastructures in India and the Syria are similar, yet pricing structures are markedly different. The present study does not cover the effect of differential tariff on the adoption intention.

Suggestions for Future Research

Future researchers may consider using a more general and representative population of mobile users and investigate and examine other factors that could further explain consumer's behavioural intention towards the adoption of mobile advertising as well as mobile services.

The present study is cross-sectional; that is, it measures perceptions and intentions at a single point in time. However, perceptions change over time as individuals gain experience (Mathieson *et al.*, 2001; Venkatesh & Davis, 1996). This change has implications for researchers and practitioners interested in predicting mobile advertising and services usage over time. A dynamic model or longitudinal evidence would not only help predict beliefs and behavior over time, but also enhance our understanding of the causality and interrelationships between variables, that are important to individuals' adoption of mobile advertising and services.

Perceived usefulness was found in this study to influence adoption intention. Researchers (Pura, 2005; Standing, Benson & Karjaluoto, 2005; Tsang, Ho & Liang, 2004; Tähtinen & Salo, 2004) have highlighted that the usefulness is related to entertainment and informativeness of the mobile advertising content as well as saving money, saving time and providing useful information. Thus, future research should focus on the content of mobile advertising messages as well as on the benefits associated with using mobile services.

Since compatibility is another key determinant of intention, it is important to ensure that mobile advertising and services fit well with the existing values and lifestyles of consumers. To achieve that, it is important to understand how mobile advertising and services can be made to be more compatible with the adopters' lifestyles and needs. So, additional research is a need in the context of compatibility.

FACTORS AFFECTING ADOPTION OF MOBILE MARKETING:
A COMPARATIVE STUDY OF SYRIA AND INDIA

THESIS

SUBMITTED FOR THE AWARD OF THE DEGREE OF

Doctor of Philosophy

IN

BUSINESS ADMINISTRATION

BY

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Under the Supervision of

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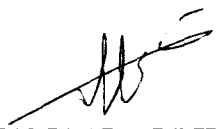
2009

Dedicated to My Father

DECLARATION

I, Kamaal Allil, declare that the thesis titled **"FACTORS AFFECTING ADOPTION OF MOBILE MARKETING: A COMPARATIVE STUDY OF SYRIA AND INDIA"** submitted to the Department of Business Administration, Faculty of Management Studies & Research, Aligarh Muslim University, Aligarh, U.P., India, for the degree of **DOCTOR OF PHILOSOPHY IN BUSINESS ADMINISTRATION** is a record of original work done by me and to the best of my knowledge has not previously formed the basis for the award of any degree, diploma, associateship, fellowship to any candidate.



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CERTIFICATE

This is to certify that **Mr. Kamaal Allil**, a candidate for the degree of Doctor of Philosophy in the Department of Business Administration, Faculty of Management Studies & Research, Aligarh Muslim University, has completed his thesis titled *"Factors Affecting Adoption of Mobile Marketing: A Comparative Study of Syria and India"* under my supervision.

To the best of my knowledge and belief, the research work is based on the investigations made, data collected and analyzed by him and it has not been submitted in any other university or institution for the award of any degree or diploma.

(Dr. Mohammed Naved Khan)

PREFACE

The mobile phone offers marketing managers new opportunities for advertising and services. Mobile phones are turning out to be extremely promising marketing tools as they provide an ever evolving platform to cope with two major challenges faced by present day marketers: getting time and attention from customers.

With increasing penetration, mobile phones are drawing the attention of the global advertising industry interested in using this medium as a means of communicating with the target audience. However, in spite of the increasing number of companies investing in mobile marketing campaigns, there is, as yet, little academic research on this topic and the intention of customers to adopt mobile phone as advertising and services tool is not yet understood fully. This is more so in the case of countries like Syria and India. Moreover, cross-cultural studies encompassing Syria and India are non-existent.

This thesis is structured into chapters that provide a critical review of extant literature on mobile advertising and services adoption; prominent models and theories of technology acceptance/adoption; research methodology; theoretical framework and research hypotheses. Data gathered has been analysed to provide evidence in support of hypotheses considered for the study. The research findings together with the proposed research models have been relied upon to suggest implications that are important for the understanding of behavioural intention of Indian and Syrian mobile patrons.

The thesis is divided into six chapters, and a brief overview of the same is presented below.

Chapter 1 provides a brief introduction to the background of the study along with the research problem. The chapter also outlines the objectives of this study together with significance and scope.

Chapter 2 starts with mobile marketing definition and then provides an overview of current approaches to consumer adoption of mobile advertising and services as well as the literature related to the five prominent theories of

technology adoption. Furthermore, it sheds lights on country profiles of Syria and India and mobile telecommunication scenario in both countries.

Chapter 3 proposes a theoretical framework which is comprised of key factors that are expected to influence behavioural intention to adopt mobile advertising and services in the Indian and Syrian contexts.

Chapter 4 presents the research methodology and methods employed in the conduct of study. In addition, the research process, design, development of the instrument, pilot study, sample and data collection, and data analysis methods are presented.

Chapter 5 presents data analysis related to testing of the differences between Syrian and Indian respondents as well as exploring the effect of gender. Furthermore, the chapter also includes the two proposed models of mobile adoption viz. mobile advertising adoption model and the mobile service adoption model. These models have been tested using the Structural Equation Modelling Tool LISREL 8.5.

Chapter 6 highlights the key findings of the study. In addition, the contribution of the study, including theoretical and managerial implications, are discussed. It also presents limitations of the study and suggestions for further research.

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GLOSSARY OF TERMS

Advertising Awareness: The extent to which consumers consciously view advertising messages in a variety of media, such as television, radio, magazine or Internet.

Attitude towards Behavior: An individual's positive or negative feelings about performing the target behaviour.

Compatibility: The degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of the receivers.

Convergent Validity: It is synonymous with criterion validity and with correlational analysis, and is one way of establishing construct validity.

Cross-Sectional Study: A research study for which data are gathered just once (stretched though it may be over a period of days, weeks, or months) to answer the research question.

Culture: A collective programming of the mind which distinguishes the members of one group or category of people from another. Culture is also defined as set of basic values, perceptions, wants and behaviours learnt by a member of society and other important institutions

Dependent Variable: It is a variable of primary interest to the study, also known as the criterion variable.

Discriminant Validity: It is another way of testing construct validity. A measure has discriminant validity when it has a low correlation with measures of dissimilar concepts. In other words, discriminant validity reflects the extent to which the constructs in a model are different.

Endogenous Latent Construct: A latent, multi-item equivalents to a dependent variable. It is a construct that is affected by other constructs in the model.

Exogenous Latent Construct: A latent, multi-item equivalent of an independent variable. It is a construct that is not affected by any other construct in the model.

Independent Variable: A variable that influences the dependent or criterion variable and accounts for (or explains) its variance.

Information Technology: Computer technology, both hardware and software, for processing and storing information, as well as communication technology including networking and telecommunications for transmitting information.

Longitudinal Study: A research study for which data are gathered at several points in time to answer a research question.

Measurement model: It estimates the unidimensionality, reliability and validity of each construct.

Mobile : A mobile phone or mobile (also called cellphone and handphone, as well as cell phone, cellular phone, cell, wireless phone, cellular telephone, mobile telephone or cell telephone) is a long-range electronic device used for mobile voice or data communication over a network of specialized base stations.

Mobile Marketing: It is any form of marketing, advertising or sales promotion activity aimed at consumers and conducted over a mobile channel.

Parsimony: A model high in parsimony (simplicity) is a model with relatively few parameters and relatively many degrees of freedom. On the other hand, a model with many parameters and few degrees of freedom is said to be complex or lacking in parsimony.

Perceived Usefulness: The degree to which a person believes that using a particular system would enhance his or her job performance.

Personal Innovativeness: It refers to individual's tendency to seek novelty or to be more receptive to new ideas.

Pilot Study: The study conducted to detect weaknesses in design and instrumentation and to provide proxy data for selection.

Pre-testing: A trial run with a group of respondents for the purpose of detecting problems in the questionnaire instructions or design, whether the respondents have any difficulty understanding the questionnaire or whether there are any ambiguous or biased questions.

Questionnaire: A pre-formulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives.

Reliability: The extent to which research findings would be the same if the research were to be repeated at a later date, or with a different sample of subjects.

Sample: A sample is a subset of the population, comprising some members selected from the population.

Social Influence: The degree to which an individual perceives that other important persons believe he or she should use the system.

Structural Equation Modelling (SEM): A multivariate technique that combines aspects of multiple regression (examining dependence relationships) and factor analysis (representing unmeasured concepts-factors with multiple variables) to estimate a series of interrelated dependence relationships simultaneously.

Structural Model: It involves estimating the relation between independent (exogenous) and dependent (endogenous) variables.

Subjective Norm: The social pressure exerted on the person or the decision maker to perform the behaviour. It refers to an individual's perception about what other people think of his or her behaviour in question.

Theoretical Framework: A collection of theories and models from the literature which underpins a positivistic research study. It is a conceptual model of how the researcher theorises or makes logical sense of the relationships among the several factors that have been identified as important to the problem. The theoretical framework may be referred to as a conceptual framework or as the research model. These three terms are used interchangeably in this research.

Validity: The extent to which the data collected truly reflects the phenomenon being studied.

LIST OF ABBREVIATIONS

AA	Attitude towards Mobile Advertising
Ads	Advertising /Advertisements
AGFI	Adjusted Goodness-of-Fit Index
AM	Attitude towards mass media advertising
AS	Attitude towards mobile services
AW	Awareness of mass media advertising
C	Control
CA	Compatibility with mobile advertising
CFI	Comparative Fit Index
CS	Compatibility with mobile services
DF	Degree of Freedom
GFI	Goodness of Fit Index
IA	Intention to adopt mobile Advertising
ICT	Information and Communication Technology
IDT	Innovation Diffusion Theory
IDV	Individualism
IN	Personal Innovativeness
IS	Intention to adopt mobile Services
IT	Information Technology
LISREL	LInear Structure RElation Model
LTO	Long-Term Orientation
MAAMI	Mobile Advertising Adoption Model for India
MAAMS	Mobile Advertising Adoption Model for Syria
M-ads	Mobile advertising

MAS	Masculinity
MMS	Multi Media Service
MSAMI	Mobile Service Adoption Model for India
MSAMS	Mobile Services Adoption Model for Syria
NNFI	Non-Normed Fit Index
PDI	Power Distance
PNFI	Parsimony Normed Fit Index
RMSEA	Root Mean Square Error of Approximation
SA	Subjective norms for mobile advertising
SEM	Structural Equation Modelling
SMS	Short Message Service
SRMR	Standardized Root Mean Square Residual
SS	Subjective norm for mobile Services
TAM	Technology Acceptance Model
TPB	Theory of Planed Behavior
TRA	Theory of Reasoned Action
TRAI	Telecom Regulatory Authority of India
UA	Perceived Usefulness of Mobile Advertising
US	Perceived Usefulness of Mobile Services
UTUAT	Unified Theory of Use and Acceptance of Technology
WAP	Wireless Application Protocol
$\chi 2$	Chi-square
$\chi 2$ / df	Normed Chi-square

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CHAPTER 1

INTRODUCTION

1.1. BACKGROUND OF THE RESEARCH

The main purpose of the mobile phones is no longer to transmit voice only. When a device is used as a wallet and bank account (Barnes & Corbitt, 2003), when it transmits images (Repo, Hyvönen, Panzar & Timonen, 2004) and obeys voice commands, navigates in towns and communicates with other devices, it should no longer be called a telephone (Nordman & Liljander, 2005). Mobile phones have become one of the most usable devices in our day to day life (Bandoy-padhyay, 2002). Rapidly growing telecommunication and computer technology sectors have changed the marketer's world (Balasubramanian *et al.*, 2002). Dickinger *et al.*, (2003) argue that these technological changes enable marketers to interact with their customers in more rapid and easier ways. Haghirian *et al.*, (2005) state that, the users of the mobile phone can receive digital photograph, moving video images and high quality audio from their hand sets.

Consumers already expect a high-end electronics experience from their state-of-the-art digital cameras, camcorders and game consoles. They are beginning to expect that same experience on their mobile phones, with a broad range of compelling, interactive content. Current 3G handsets now feature high-resolution colour displays, integrated video cameras, audio and video content streaming, Internet access at broadband speeds, location-based services, and multi-user 3D gaming. These rich computing environments will encourage and facilitate the development of business applications for mobile phones. We are finally seeing the convergence of the PDA, the mobile computer and a telephone in a single device (Michael & Salter, 2006).

The convergence of the Internet and wireless telephony and the fast adoption rate of the mobile phone have combined to present a new plate form for advertising (Barnes,

2002). In 1998, there were some 200 million mobile customers worldwide. Toward the end of 2004, the figure had climbed to some 1.6 billion (Steinbock, 2005).In December 2008, the figure had climbed to 4.1 billion according to the International Telecommunication Union (2009).

Mobile marketing offers an extraordinary opportunity to marketers to explore the unique advantages of the mobile medium as a channel of promotional direct marketing (McManus & Scornavacca, 2005). As consumer adoption of mobile technology continues to increase, it is only a question of time when mobile advertising becomes an important part of marketing strategies. Consumer adoption of mobile technology has in most countries been even faster than that of the Internet (Perlado & Barwise, 2005).

According to Haghirian *et al.* (2005) mobile advertising is the transmission of advertising messages via mobile devices such as mobile phone. Haghirian *et al.* (2005) define mobile advertising as wireless advertising. According to Yunos *et al.* (2003) mobile advertising includes marketing activities which deliver advertisements to mobile devices by using wireless network to promote goods and services and for creating brand awareness. He also mentions that mobile advertising is flexible, dynamic and highly targeted. Besides, this targeted audience can search for information, make enquiries and make purchases at any location (Yunos *et al.*, 2003).

The mobile marketing space is still evolving. Almost all existing formats of user connectivity have been driven by SMS, and certain categories are still being tested. Mobile communication should never be a stand-alone channel, or an aggressive promotional tactic. It should be used to extend the presence of a company or product into an additional channel. The key is integration. Companies with a physical presence (a physical store, a catalogue, even a website) can leverage mobile media to extend their presence to be anywhere the user is at any time (Steinbock, 2005).

Bamba and Barnes (2007) suggested that since mobile phones are personal objects, marketers can specifically address the person targeted, as well as recognizing their social context, individual preferences, time, and location. Via the mobile channel, the response can be nearly immediate, interactive and the consumer can be reached

everywhere at anytime because the service is typically ubiquitous (Jelassi & Enders, 2004). SMS location-based services are likely to become increasingly valued as a marketing tool (Ververidis & Polyzos, 2002).

Two different approaches adopted from the online advertising models are being used in sending mobile advertisements, namely the push approach and pull approach (Yunos *et al.,* 2003; Dickinger *et al.,* 2004). In pull approach, the user requests a message (a phone call or a mobile message) from the service provider. In this case, it is the user who initiates communications relating to the mobile marketing campaign (Steinbock, 2005). Usually pull advertising provides free information such as traffic reports, weather forecasts, ability to browse content the customer has requested (Yunos *et al.*, 2003). On the other hand, in push approach, marketing services are delivered directly to the user on the mobile device. In this case, the service provider initiates the communication. A push campaign is predicated on a list of targeted users with a marketing message that is compelling and preferably interactive. Quah and Lim (2002) argue that the push model will dominate mobile advertising since it saves consumers' time and money compared to browsing content. Push SMS advertising is the biggest market for wireless advertising (Barnes, 2002). Both push and pull categories have a role to play in mobile marketing. The former is typical to promotional campaigns, whereas the latter is characteristic of relationship development (Steinbock, 2005).

For advertising products and services, modern advertising experts are gradually more depending on various interactive technologies (Stewart & Pavlou, 2002). Mobile advertising opens up a new dimension for them to send location specific marketing messages to users when they move toward within range of a particular location, for example: marketer will be able to promote their services as hotels, restaurants and even any special offers from a nearby shop or business location (Stewart & Pavlou, 2002).

On the other hand, mobile services are becoming increasingly important for firms and consumers because of ubiquitous, universal, and unison access to information and services, and the possibility for unique and personalized exchange of information (Watson *et al.*, 2002). The essence of mobile services revolves around the idea of

reaching customers regardless of their location and it is about delivering the right information to the right person at the right time (Barnes, 2002). The first advanced mobile marketing campaigns were initiated in Europe and Scandinavia, Japan and Korea, in the growing markets of China and India and only then in the United States (Steinbock, 2005).

Usually in mobile advertising, messages are transmitted via short message service (Reyck & Degraeve 2003). Until recently, most mobile campaigns could use only SMS messaging, which is constrained to text and 160 characters. Despite the inherent limitations of SMS, it has proved very effective and generated high brand recall and response rates, particularly in the youth markets (Steinbock, 2005). However, its users, volume of usage, acceptance, and effectiveness have received little attention from academics and international market research institutes (Merisavo *et al.*, 2007).

In 2002, a survey of one thousand mobile phone owners in London identified six types of mobile advertisement: 1) Brand building, 2) Special offers, 3) Timely media 4) Competitions 'teasers', 4) Services and information requests, 5) Competitions and 6) Polls/voting (Barwise & Strong, 2002).

Still advertising via mobile devices limits the possibilities of advertisers. The message sent needs to have certain attributes. It should be concise, use a language which is understood by the recipients, and use the available 160 characters (Barwise & Strong, 2002). So, it is a real challenge for advertisers to produce text advertises which are at a time entertaining, eye catching, relevant and effective, and without repeating the same execution twice. (Barwise *et al.*, 2002)

Haghirian *et al.* (2005) argue that though mobile advertising is expanding the opportunities for marketers but the potential customers are not getting any scope to indicate their likes and dislikes with this type of marketing activities via mobile phone. He also added that as mobile phone is very personal device therefore customers want all the services according to their need and preferences. This situation creates a high risk for the marketer (Robins, 2003). Haghirian *et al.* (2005) say, as marketers are unsure about the customer's opinion toward these marketing activities so, it creates high risk for the marketers.

1.2. RESEARCH PROBLEM

Understanding how companies should interact with their customers and deliver services in electronic environments is of decisive importance (Parasuraman and Zinkhan 2002). The development of mobile services has been intense for years but adoption has not progressed as expected (Carlsson *et al.*, 2006). On the other hand, the development of mobile advertising is still in its early stages and includes many types of challenges in both technologies and business implications and these can even impede the prevalence of mobile advertising (Facchetti, Rangone, Renga, & Savoldelli, 2005). According to Merisavo *et al.* (2007) the factors that induce consumers to accept mobile devices as an advertising medium are not yet fully understood. So, the development of mobile advertising and services will be dependent on adoption issues. This research is concerned with understanding the mobile advertising and mobile service adoption requirements of end users in India and Syria. Thus, the most important research question is: what influences this adoption.

Some of the most well-known extant theories/models of technology adoption are (1) the Technology Acceptance Model (TAM) (Davis, 1989; Davis, Bagozzi & Warshaw 1989), (2) Innovations Diffusion Theory (IDT) (Rogers, 1983, 1995), (3) Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980), (4) Theory of Planned Behaviour (TPB) (Ajzen, 1985), and (5) The Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh, Morris, Davis & Davis, 2003).

It is wondered whether these theories/models of technology acceptance that have been developed, modified, and extended in USA can be used in other countries, especially in India and Syria. According to Ticehurst and Veal (2000), culture can influence the outcomes of the research. The findings of any research are not necessarily applicable to other countries such as in Syria or India. It is clear that great care needs to be taken when extending the findings of business research conducted in other countries such as in the USA to India and Syria.

As far as the researcher is concerned, there has been no published model of technology acceptance focused on the mobile behavioural intention to adopt mobile

advertising and services in the context of India and Syria. Thus, developing an adoption model for mobile advertising and another for mobile services and testing these two models in two different cultural settings viz. India and Syria was important and necessary to strengthen the power of understanding adoption intention of the mobile advertising and services because culture has been recognized as a significant construct impacting IT adoption (Straub & Brenner, 1997).

It is expected that the proposed models together with other key findings arrived at based on the present research will be of immense benefit to researchers and marketing practitioners in the two countries. Future researchers can adapt and validate the proposed models for other countries.

1.3. OBJECTIVES OF THE STUDY

The study had two broad objectives. The first is to review literature on mobile advertising and services adoption in the context of theories and models of individual adoption of information technology. The second is to propose and validate adoption models of mobile advertising and mobile services in the context of India and Syria. Keeping the above broad objectives in mind, the following specific research objectives were considered for the study:

1. To review literature on mobile advertising and services adoption in the context of theories and models of individual adoption of information technology viz. Innovations Diffusion Theory (IDT), Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Technology Acceptance Model (TAM), and The Unified Theory of Acceptance and Use of Technology (UTAUT).
2. To investigate the factors that influence intention of consumers to adopt mobile advertising and services in India and Syria.
3. To propose and test adoption models for mobile advertising for each of the two countries.
4. To propose and test adoption models for mobile services for each of the two countries.

5. To examine the effect of gender on mobile advertising and service adoption in India and Syria.
6. To investigate the differences between Indian and Syrian respondents for mobile advertising and service adoption.

6.1. SIGNIFICANCE OF THE STUDY

If we could better understand what affects consumers' willingness to adopt advertising and services through mobile, this may greatly help marketers, managers and advertising companies to offer better services to consumers and increase their competitiveness while at the same time consumers will benefit from tailored services that specifically answer their needs and requirements.

Furthermore, the model generated from this research will provide a useful tool for top marketing team at the organizations to understand the factors influencing behavioural intention to adopt mobile advertising and mobile service. So, the findings from this research will be beneficial not only to academic researchers, but also to the marketing experts by helping them in planning the strategies to support mobile advertising and mobile services adoption.

This research sets out to make contributions to knowledge as follows:

1) It shall attempt to provide a big picture of relevant aspects of mobile advertising and services in general and in the context of India and Syria in particular.
2) It shall provide a relatively clear description and understanding of prominent models and theories of technology acceptance.
3) It is hoped that the study will contribute to wider understanding of the behavioral intention to adopt mobile advertising and services in India and Syria.
4) Identifying the differences of gender is important, both for being able to tailor mobile advertising and services to gender based segments and for

better understanding the different motives underlying new technology adoption.

5) A major contribution of the study to the existing knowledge and literature is the application of Structural Equation Modeling (SEM). SEM has useful features, especially in modeling multivariate relations, and there are no widely and easily applied alternative methods of this kind (Byrne, 2006).

6) The study contributes significantly to the global understanding of the behavioral intention towards adoption of mobile advertising and services in the context of India and Syria.

7) This study presents two adoption models one for mobile advertising and the other for mobile services, using students' behavioral intention to adopt mobile advertising and services by testing and verifying the theoretical framework. This outcome is expected to be useful from an academic or scholarly standpoint and will be of help to researchers and practitioners in India and Syria.

6.2. SCOPE OF THE STUDY

This study attempted to target Indian as well as Syrian respondents from public and private universities. Population of interest comprised those students who owned a mobile phone. The reason why the study focussed only on students enrolled for courses in business departments of the institutions was that these students tend to be more technology savvy and cooperative. Previous researchers also have selected students in their samples (Drossos, Giaglis, & Lekakos, 2007; He & Lu, 2007; Turel, Serenko & Bontis, 2007). In India this study covered students enrolled in (1) Aligarh Muslim University, Aligarh (2) Jamia Hamdard University, New Delhi (3) Jamia Milla Islamia, New Delhi, and (4) Asia Pacific Institute of Management, New Delhi. In Syria, on the other hand, it covered (1) Damascus University, Damascus (2) Damascus Open-learning University, Damascus (3) Al-Kalamoon University, Der-Ateh (4) Technological Institute of Business Administration and Marketing, Damascus (5) Higher Institute of Business Administration, Damascus.

Adoption researchers typically describe and explain the adoption decision of individual end-users applying different cognitive and social theories of decision making. Five models stand out as the most widely applied: the Technology Acceptance Model (TAM) originally proposed by Davis (1989), the Theory of Reasoned Action (TRA) originally proposed by Fishbein and Ajzen (1975), the Theory of Planned Behaviour (TPB) originally proposed by Ajzen (1985) and the Unified Theory of Use and Acceptance of Technology (UTUAT) proposed by Venkatesh, Morris, Davis and Davis (2003). Much research may be found applying one or more of these four theories to explain end-users' adoption and acceptance of different kinds of information and communication technology and applications (Venkatesh & Davis, 2000).

6.3. SUMMARY

This chapter presents the background of this research, research problem, objectives, significance, as well as scope of the study. The structure of the thesis is presented in Figure 1.1. The next Chapter deals with literature review relating to mobile marketing as well as the theories of technology adoption.

Figure 1.1 Structure of the Thesis

Chapter1 Introduction

1.1. Background of the Research
1.2. Research Problem
1.3. Objectives of the Study
1.4. Significance of the study
1.5. Scope of the Study
1.6. Research Problem

Chapter 2 Mobile Marketing & Technology Adoption Theories

2.1 Introduction
2.2 Mobile Marketing Definition
2.3 Current Approaches to Consumer Adoption of Mobile Advertising and Services
2.4 Theories and Models of Individual Adoption
2.5 Country Profiles and the Mobile Tele-communications Scenario in Syria and India
2.6 Summary

Chapter 3 Theoretical Framework & Hypotheses

3.1 Introduction
3.2 Research Objectives
3.3 Theoretical Background
3.4 Basic Concepts
3.5 Theoretical Framework of the Study
3.6 Direct Factors
3.7 Intention to Adopt
3.8 Culture and Mobile Marketing
3.9 Gender and Mobile Marketing
3.10 Research Hypotheses
3.11 Measurement Items
3.12 Summary

Chapter 4 Research Methodology

4.1 Introduction
4.2 Research Process
4.3 Research Design
4.4 Survey Research Methodology
4.5 Development of the Questionnaire
4.6 Sample and Data Collection
4.7 Data Editing and Coding
4.8 Missing Data and Outliers
4.9 Data Analysis
4.10 Summary

Chapter 5 Data Analysis

5.1 Introduction
5.2 Preliminary Data Analysis
5.3 Independent Sample T-test
5.4 ONE-WAY ANOVA
5.5 Mobile Advertising and Services Modelling
5.6 Summary

Chapter 6 Conclusion and Suggestions

6.1 Introduction
6.2 Demographic Characteristics
6.3 Respondents' Mobile Usage Characteristics
6.4 Results of Hypotheses Testing
6.5 Summary of Key Findings and Discussions
6.6 Theoretical Implications
6.7 Managerial Implications
6.8 Limitations of the Study
6.9 Suggestions for Future Research
6.10 Summary

CHAPTER 2

MOBILE MARKETING AND TECHNOLOGY ADOPTION THEORIES

2.1 INTRODUCTION

Researchers in the area of information systems and IT are interested in investigating the theories and models that can help predict and explain behaviour across domains. The objective of such studies is to investigate and examine the factors affecting behavioral intention and adoption of the technology. Theoretical concepts from these studies help provide sound basis for creating research models that aid us in demonstrating factors affecting the adoption of mobile advertising and services.

The present chapter reviews and discusses the literature in relation to mobile advertising and services as well as five prominent technology acceptance theories and models. They include Innovation Diffusion Theory (IDT) (Rogers, 1983, 1995), Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975; Ajzen & Fishbein, 1980), Theory of Planned Behaviour (TPB) (Ajzen, 1985), Technology Acceptance Model (TAM) (Davis, 1989; Davis, Bagozzi & Warshaw 1989), and The Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh *et al.*, 2003). Further, country profiles of India and Syria are presented along with the telecommunication scenario in both the countries.

2.2 MOBILE MARKETING DEFINITION

Electronic marketing refers to the achievement of marketing objectives through the use of electronic communications technology (Chaffey, 2003). Electronic marketing is often used as a tool of direct marketing which refers to marketing through

advertising media that interact directly with consumers, generally calling for the consumer to make a direct response (Kotler *et al.*, 2002).

Mobile marketing is a subset of electronic marketing and is defined by as "using a wireless medium to provide consumers with time-and-location-sensitive and personalized information that promotes goods, services and ideas, thereby benefiting all stakeholders" (Dickinger *et al.*, 2004, 2005; Scharl, Dickinger, & Murphy, 2005). Mobile marketing can also be seen as encompassing activities required for communicating with customers through the use of mobile devices in order to promote the selling of products or services and the provision of information about these products and services (Ververidis & Polyzos, 2002).

The Mobile Marketing Association (MMA) defines mobile marketing as "any form of marketing, advertising or sales promotion activity aimed at consumers and conducted over a mobile channel. Methods of communication for this type of marketing include voice files, SMS, MMS, WAP messaging, Java, and video and audio messaging" (MMA, 2003). In 2009, MMA updated the definition of mobile marketing as follows "Mobile Marketing is a set of practices that enables organizations to communicate and engage with their audience in an interactive and relevant manner through any mobile device or network."

Michael & Salter (2006) in their book "Mobile Marketing: Achieving Competitive Advantage through Wireless Technology" described mobile marketing as "use of the mobile medium as a communications and entertainment channel between a brand and an end-user. This is the only personal channel enabling spontaneous, direct, interactive and/or targeted communications, any time, any place. This channel of marketing is for mobile devices, including handsets, PDAs and laptops. Communications include short message services (SMS), multimedia messaging services (MMS) combining text with simple graphics and sound, wireless application protocol (WAP) mobile Internet and WAP push services, and full multimedia third-generation (3G) services. It is highly personalized, interactive, and has an immediate impact. When used cross-media to complement other promotions, mobile marketing has been proven to generate a solid increase in sales".

2.3 CURRENT APPROACHES TO CONSUMER ADOPTION OF MOBILE ADVERTISING AND SERVICES

Researchers approach the adoption of mobile advertising and services from the perspective of technology acceptance theories and models (Amberg, Hirschmeier, & Wehrmann, 2004; Brwon , Cajee, Davies , & Stroebel, 2003; Carlsson, *et al.*, 2005; Carlsson, *et al.*, 2006; He & Lu, 2007; Hsu, Lu, & Hsu, 2007; Hung, Ku & Chang, 2002; Knutsen, 2005; Lee *et al.*, 2002; Park, Yang, & Lehto, 2007; Pagani, 2004; Kwon & Chidambaram, 2000; Pedersen, Methlie & Thorbjornsen, 2002; Samtani, Tze, Hoon & Gin, 2003; Teo & Pok, 2003; Turel *et al.*, 2007).

They have provided conceptual models of customers' willingness to accept mobile advertising and services (Bauer, Reichardt, Barnes, & Neumann, 2005; Dickinger *et al.*, 2004; Haghirian *et al.*, 2005; Hsu *et al.*, 2007; Leppäniemi & Karjaluoto, 2005; Turel *et al.*, 2007), conceptualized success factors (Bouwman, Carlsson, Molina-Castillo, & Walden, 2007; Dickinger *et al.*, 2004; Drosos & Giaglis, 2004; Merisavo, *et al.*, 2007; Scharl, Dickinger, Murphy, 2005), examined the effectiveness empirically (Barwise & Strong, 2002; Drossos *et al.*, 2007; Haghirian *et al.*, 2005; Bauer *et al.*, 2005), compared different approaches for mobile advertising (Bulander, Decker, Schiefer, & Kolmel, 2005), evaluated privacy issues in mobile advertising (Cleff, 2007), categorized mobile marketing campaigns (Pousttchi & Wiedemann, 2006), analyzed the emerging industry (Kavassalis, Spyropoulou, Drossos, Mitrokostas, Gikas, & Hatzistamatiou, 2002) and discussed business models (Komulainen, Mainela, Sinisalo, Tähtinen, & Ulkuniemi, 2005).

Concepts like relative advantage/usefulness/utility, subjective norm/social value/normative pressure/peer influence/social influence, compatibility, complexity/ease of use, privacy, risk, trust, sacrifice, attitude, control, permission, facilitating condition, self-efficacy, and triability play a key role in these approaches.

2.4 THEORIES AND MODELS OF INDIVIDUAL ADOPTION

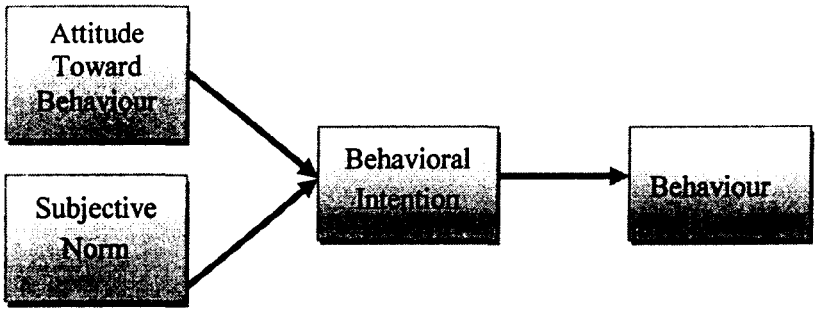
Various models originating from different disciplines have attempted to explain factors that affect innovation adoption and usage. In the field of marketing, the Theory of Reasoned Action (TRA) proposed by Fishbein and Ajzen (1975), the Theory of Planned Behaviour (TPB) proposed by Ajzen (1985) , Technology Acceptance Model (TAM) proposed by Davis (1989), Diffusion of Innovation Theory (DIT) proposed by Rogers (1995) and the Unified Theory of Use and Acceptance of Technology (UTUAT) proposed by Venkatesh *et. al.* (2003) have alternately been used to explain possible adoption and acceptance patterns of emerging new mobile technologies and services among consumers. Moreover, numerous studies have applied the models to consumer acceptance in different industries and contexts. The above theories have also been modified or extended to fit into specific contexts.

2.4.1 Theory of Reasoned Action (TRA)

One well-established intention model that has proven effective in analyzing and forecasting a person's consciously intended behavior across research areas is the Theory of Reasoned Action (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980). Drawn from social psychology, TRA is considered one of the most fundamental and influential theories of human behavior (Venkatesh *et al.*, 2003). It is used to explain behavior beyond the adoption of technology. TRA posits that individual behavior is driven by behavioral intentions where behavioral intentions are a function of an individual's attitude toward the behaviour and subjective norms surrounding the performance of the behavior (Please, see Figure 2.1).

- Attitude Towards Behavior is defined as an individual's positive or negative feelings about performing the target behavior (Fishbein & Ajzen, 1975).
- Subjective Norms is defined as the person's perception that most people who are important to him think he should or should not perform the behavior in question (Fishbein & Ajzen, 1975).

Figure 2.1: Theory of Reasoned Action



Source: Fishbein and Ajzen (1975)

The Theory of Reasoned Action was validated in predicting the individual's acceptance of various corporate IT systems (Adams, Nelson, & Todd, 1992; Chin & Todd, 1995; Doll, Hendrickson, & Deng, 1998; Segars & Grover, 1993). TAM has been applied to explain the coupon usage (Shimp & Kavas, 1984), adoption of online banking (Lassar, Manolis, & Lassar, 2005), as also adoption of information communication technology applications (Liker & Sindi, 1997).

Gentry and Calantone (2002) recommended TAM as superior to the TRA and TPB models in its ability to predict consumers' behavioral intentions. However, the TAM's fundamental constructs do not fully reflect the specific influences of technological and usage-context factors that may alter the users' acceptance (Moon & Kim, 2001).

2.4.2 Theory of Planned Behavior (TPB)

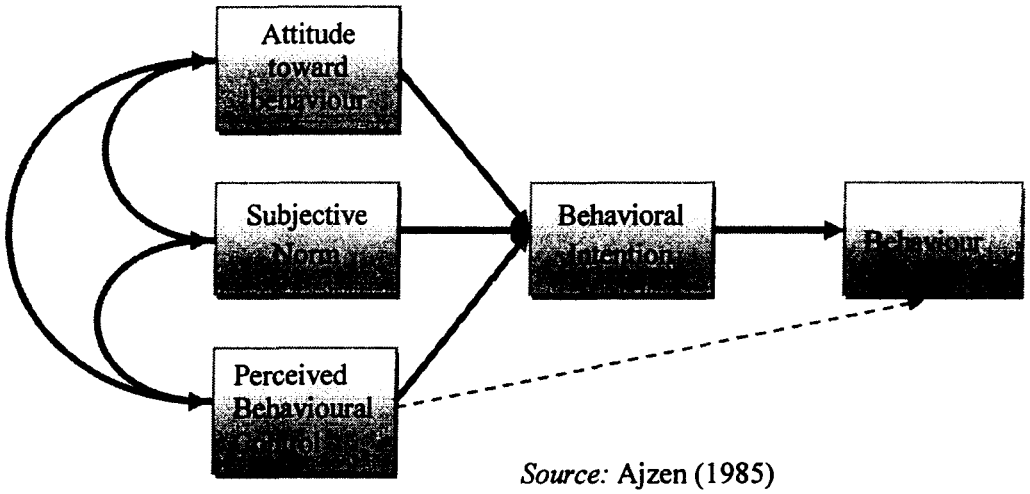
The Theory of Planned Behavior (TPB) was originally proposed by Ajzen (1985). TPB extended TRA by adding the construct of perceived behavioral control (Venkatesh, *et al.*, 2003). TPB posits that individual behavior is driven by behavioral intentions where behavioural intentions are a function of an individual's attitude toward the behaviour, the subjective norms surrounding the performance of the behavior, and the behavioral control (Please, see Figure 2.2).

- Attitude toward Behavior is defined as an individual's positive or negative feelings about performing the target behavior (Fishbein & Ajzen, 1975).

- Subjective Norms is defined as the person's perception that most people who are important to him think he should or should not perform the behavior in question (Fishbein & Ajzen, 1975).
- Perceived Behavioral Control is defined as the perceived ease or difficulty of performing the behavior (Ajzen, 1991).

TPB has been successfully applied to the understanding of individual acceptance and usage of many different technologies (Harrison, Mykytyn, & Riemenschneider, 1997; Mathieson, 1991; Taylor & Todd, 1995b). It was also applied to predict consumer intentions to shop online (Lin, 2007).

Figure 2.2 Theory of Planned Behavior



Source: Ajzen (1985)

2.4.3 Technology Acceptance Model (TAM)

The Technology Acceptance Model (Davis, 1989) focuses on the attitudinal explanations of intention to use a specific technology or service. Originally, it included four concepts: perceived ease of use, perceived usefulness, intention to use and actual use (Please, see Figure 2.3). Later on, Davis, Bagozzi and Warshaw (1989) added one more concept viz. attitude towards use (Please, see Figure 2.4). The variables of the model were described as universal to different types of computer systems and user populations. Perceived usefulness is also seen as being

directly impacted by perceived ease of use. According to TAM, usefulness and ease of use will have a significant impact on a user's attitude toward using the system (Davis *et al.*, 1989).

- Perceived Usefulness is defined as the degree to which a person believes that using a particular system would enhance his or her job performance (Davis, 1989).
- Perceived Ease of Use is defined as the degree to which a person believes that using a particular system would be free of effort (Davis, 1989).
- Attitude defined as feelings of favourableness or unfavourableness towards the system (Davis *et al.*, 1989).

Figure 2.3 Technology Acceptance Model (Davis, 1989)

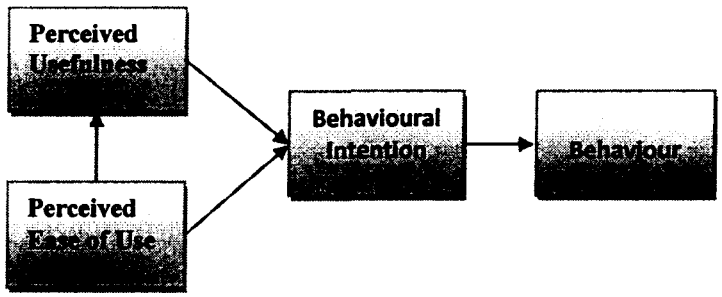
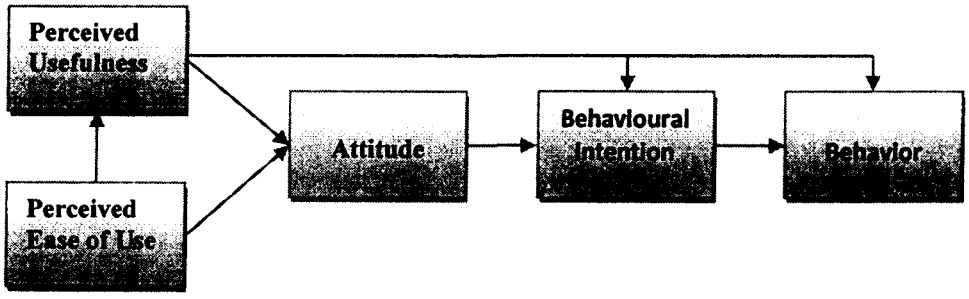


Figure 2.4 Technology Acceptance Model Suggested by (Davis *et al.*, 1989)



Although the TAM model is mainly applied to explaining the adoption of technology within organizations (Davis, 1989; Venkatesh, & Davis, 2000), the

constructs of the model are meant to be fairly general (Doll *et al.*, 1998) and considered suitable for studying individual adoption especially when individual differences and social influence are taken into consideration (Venkatesh & Morris, 2000). Davis, Bagozzi and Warshaw (1989) described the variables of the model as universal to different types of computer systems and user populations. The validity and explanatory power of TAM have been examined across many systems and contexts (King & He, 2006). Also, TAM has received considerable empirical support (Adams *et al.*, 1992; Chau & Hu, 2002; Davis & Venkatesh, 1996; Kwon & Chidambaram, 2000; Legris *et al.*, 2003), as well as in the mobile services domain (Cheong & Park, 2005; Kwon & Chidambaram, 2000; Nysveen, Pedersen, & Thorbjørnsen, 2005a).

The model has been applied to explain attitudes to using web-sites (Lederer, Maupin, Sena, & Zhuang, 2000; Lin & Lu, 2000), to predict consumer intentions to shop online (Lin, 2007), investigate adoption of wireless short messaging services (Turel *et al.*, 2007), wireless Internet (Lu, Yu, Liu, & Yao, 2003), mobile services (Kwon & Chidambaram, 2000; Lee *et al.*, 2002), Intranet (Horton, Buck, Waterson, & Clegg, 2001), desktop video conferencing in virtual workgroups (Townsend, Demarie, & Hendrickson, 2001), and academic use of Internet (Seyal, Rahman, & Rahim, 2002). The empirical findings in those studies provide additional support to the TAM model.

2.4.4 Innovation Diffusion Theory (IDT)

Grounded in sociology, Innovation Diffusion Theory (IDT) proposed by Rogers (1995) has been used since the 1960s to study a variety of innovations, ranging from agricultural tools to organizational innovation (Tornatzky & Klein, 1982). Rogers (1995) tried to explain the adoption by characteristics of the innovation being adopted. He mentioned relative advantage, compatibility, complexity, trialability and observability as the most important characteristics of an innovation explaining why it is being adopted.

- Relative advantage is the degree to which the innovation is perceived as being better than the practice it supersedes.

- Compatibility is the extent to which adopting the innovation is compatible with what people do.
- Complexity is the degree to which an innovation is perceived as relatively difficult to understand and use.
- Trialability is the degree to which an innovation may be experimented with before making the adoption or rejection decision.
- Observability is the degree to which the results of an innovation are visible to others.

Other researchers have extended Roger's work (Karahanna, Straub, & Chervany 1999; Barnes & Huff, 2003), suggesting additional factors for the model:

- Image is the degree to which adoption and use of the innovation is perceived to enhance one's image or status.
- Trust is the extent to which the innovation adopter perceives the innovation provider to be trustworthy.

Rogers (1995) categorized groups of adopters into early adopters, early majority users and late adopters. He applied traditional demographic variables to characterize aggregates of individual adopters. For example, he found early adopters to be better educated and younger (Dickerson & Gentry, 1983; Gatignon & Robertson, 1991; Rogers, 1995). Many of the studies following this tradition actually suggest the categorization of end-users into adopter categories and the corresponding analysis of the demographic, socioeconomic and personality characteristics of these groups as explanatory models of adoption.

Moore and Benbasat (1991) adapted the characteristics of innovations presented in Rogers' and proposed some extended constructs such as (image, visibility, result demonstrability, and voluntariness of use) in addition to the relative advantage, ease of use and compatibility that could be used to study individual technology acceptance. Moore and Benbasat (1996) found support for the predictive validity of these innovation characteristics.

- Relative Advantage is defined as the degree to which an innovation is perceived as being better than its precursor (Moore & Benbasat, 1991).

- Ease of Use is defined as the degree to which an innovation is perceived as being difficult to use (Moore & Benbasat, 1991).
- Image is defined as the degree to which use of an innovation is perceived to enhance one's image or status in one's social system (Moore & Benbasat, 1991).
- Visibility is defined as the degree to which one can see others using the system in the organization (Moore & Benbasat, 1991).
- Compatibility is defined as the degree to which an innovation is perceived as being consistent with the existing values, needs, and past experiences of potential adopters (Moore & Benbasat, 1991).
- Results Demonstrability is defined as the tangibility of the results of using the innovation, including their observability and communicability (Moore & Benbasat, 1991).
- Voluntariness of Use is defined as the degree to which use of the innovation is perceived as being voluntary or of free will (Moore & Benbasat, 1991).

Research has, however, found that compatibility, complexity, and relative advantage are important antecedents to the adoption of innovations (Bradford & Florin, 2003; Crum, Premkumar, & Ramamurthy, 1996). The IDT has been used to explain intentions to adopt MMS (Hsu *et al.*, 2007) and to identify factors influencing mobile banking adoption (Brwon *et al.*, 2003).

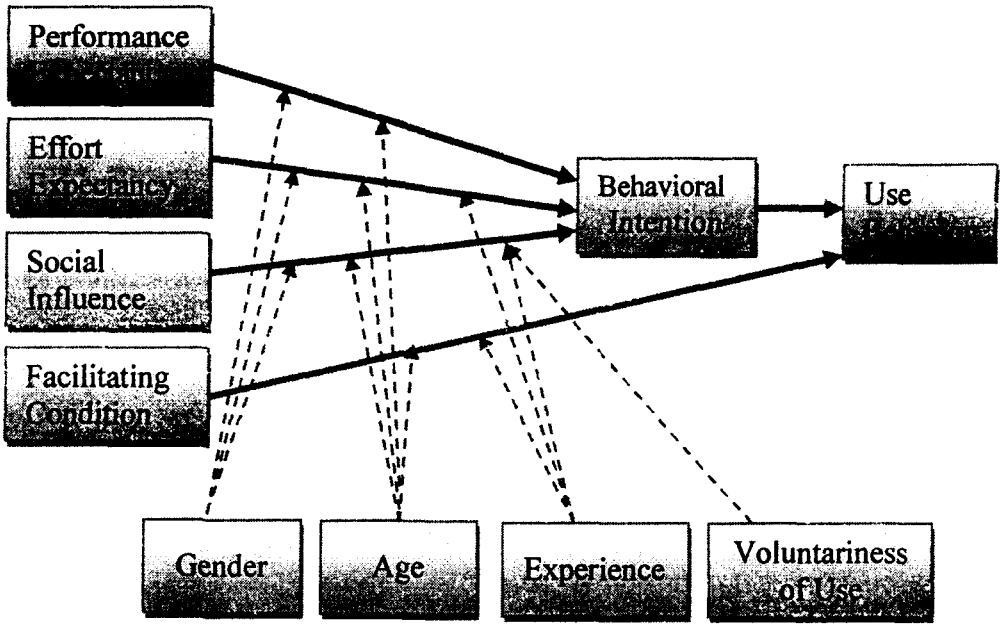
2.4.5 Unified Theory of Use and Acceptance of Technology (UTUAT)

Venkatesh *et al.* (2003) introduced the Unified Theory of Acceptance and Use of Technology (UTAUT). The unified model is based on studies of eight prominent models in information system adoption research. The model has been empirically examined and found to outperform the eight individual models. UTAUT states that there are three direct determinants of intention to use (performance expectancy, effort expectancy and social influence) and two direct determinants of usage behaviour (intention and facilitating conditions). UTAUT includes four moderators (i.e. age, gender, experience and voluntariness of use), which contribute to a better

understanding of the complexity of technology acceptance by individuals (Please, see Figure 2.5).

- Performance Expectancy is defined as the degree to which an individual believes that using the system will help him or her to attain gains in job performance.
- Effort Expectancy is defined as the degree of ease associated with the use of the system.
- Social Influence is defined as the degree to which an individual perceives that important others believe he or she should use the new system.
- Facilitating conditions refer to the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system.

Figure 2.5 Unified Theory of Use and Acceptance of Technology



Source: (Venkatesh *et al.*, 2003)

It is important to emphasise that most of the key relationships in the model are moderated. For example, age has received very little attention in the technology acceptance research literature, but the findings from the study of UTAUT indicate that it moderates all of the key relationships in the model. In addition, gender which has received some recent attention is also a key moderating influence.

UTAUT was applied to explain the acceptance and use of information technology (Al-Gahtani, Hubona, & Wang, 2007) and the adoption of mobile technology (Park *et al.*, 2007). Also, UTAUT was used with other theories as a base for a research framework to measure the acceptance toward mobile advertising (He & Lu, 2007).

UTAUT has been considered the most prominent and unified model in the stream of IT adoption research with high robustness of the instruments regarding the key constructs (Li & Kishore, 2006). However, Carlsson *et al.* (2006) pointed out that the UTAUT, to some extent and with some reservations, can be used as a starting point to find some explanations for the adoption of mobile devices/services (Carlsson *et al.*, 2006). Moreover, Park *et al.* (2007) pointed towards the need to extend and develop the UTAUT in order to explain consumers' new technology acceptance process while introducing other personal traits and cultural backgrounds into the model.

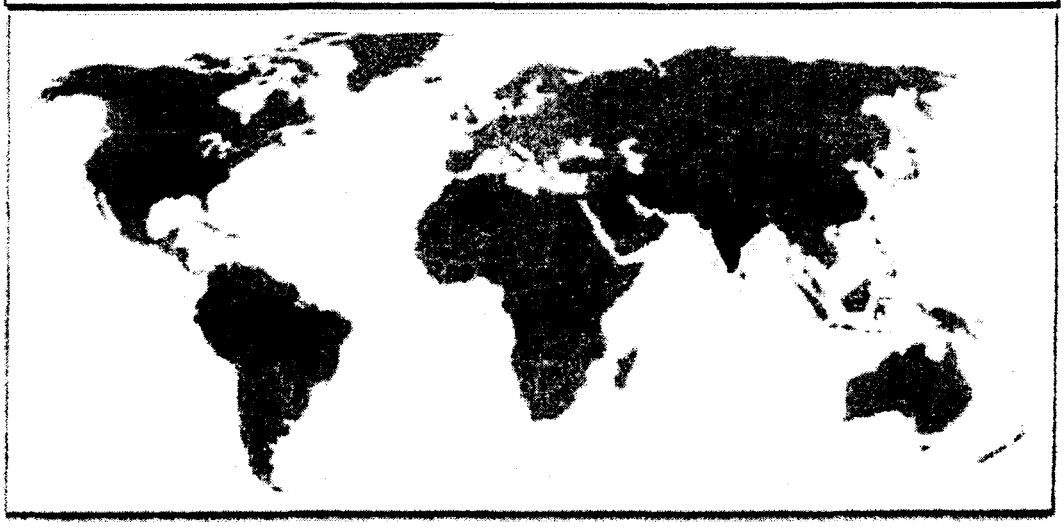
2.5 COUNTRY PROFILES AND THE MOBILE TELE-COMMUNICATIONS SCENARIO IN SYRIA AND INDIA

1) The Republic of India

The Republic of India commonly known as India is a sovereign country in South Asia. It is the seventh-largest country by geographical area, second most populous country after China with a population of around 1.152 billion (Euromonitor International, 2009), and the most populous liberal democracy in the world. India has a coastline of over seven thousand kilometers, bounded by the Indian Ocean on the South, the Arabian Sea on the West, and the Bay of Bengal on the East. India borders Pakistan to the West; China, Nepal, and Bhutan to the North-East; and Bangladesh

and Myanmar to the East. In the Indian Ocean, India is in the vicinity of Sri Lanka, Maldives and Indonesia (Please, see Figure 2.6). The official currency of India is Rupee (US$ 1=Rs 47).

Figure 2.6: India in the Map of the World



India has made rapid progress in the last decade, especially in the area of information technology. Although India's standard of living is projected to rise sharply in the next two decades, it currently battles high levels of poverty, illiteracy, persistent malnutrition, and environmental degradation. India is a pluralistic, multi-lingual, and multi-ethnic country. Indian spending patterns are evolving, with basic necessities such as food and apparel declining in relative importance, and categories such as communications and healthcare growing.

India attained GDP of 9% in 2008. Even during current recessionary times, it expects to attain a GDP growth rate of 7% in 2009 (Government of India: Economic Survey, 2009). Indian economy is among the fastest growing in the world with GDP of US $1.217 trillion (World Bank, 2008). In terms of purchasing power parity (PPP), India is the worlds' fourth largest economy. Its GDP in purchasing power parity terms is at US $ 3.388 trillion. In 2008, India's per capita income of US $1,070 was however ranked 163rd in the world.

Demographically, India has more than 350 million people below 14 years of age. So, analysts expect more people to join the workforce in the coming years, helping to sustain high rates of consumption. The National Council for Applied Economic Research (NCAER) estimates that there are 56 million people in households earning $4,400-$21,800 a year, which it defines as "middle-class". This upwardly mobile middle-class has shed the spartan lifestyle of previous generations and adopted a new attitude to spending. Consumerism—the shifting of expenditure from needs to wants—is what distinguishes the Indian middle class most sharply from the middling social groups of the past.

Wealth distribution in India is fairly uneven, with the top 10% of income groups accounting for 33% of the income. India has a labor force of 509.3 million, 60% of which is employed in agriculture and related industries. By 2025, India's middle class is expected to swell almost 12-fold from its size of 50 million people to over 583 million - some 41% of the population. This will trigger explosive growth in the consumer market taking it to $1.5 trillion, making India the world's fifth-largest consumer economy. Moreover, discretionary spending of India's middle class will rise to 70% of all spending by 2025 from 39% (The 'Bird of Gold': The Rise of India's Consumer Market, 2007). With current high growth path, over the next two decades the Indian market is expected to undergo major transformation with income levels almost tripling by 2025.

Major agricultural crops include rice, wheat, oilseed, cotton, jute, tea, sugarcane, and potatoes. The agricultural sector accounts for 28% of GDP; the service and industrial sectors make up 54% and 18%, respectively. Major industries include automobiles, cement, chemicals, consumer electronics, food processing, machinery, mining, petroleum, pharmaceuticals, steel, transportation equipment, and textiles.

India's population of approximately 1.152 billion people (Euromonitor International, 2009) consists of more than one-sixth of the world's population. India has more than two thousand ethnic groups, and every major religion of the world is represented. The major religious groups in India are Hindus (80.50%), Muslims (13.4%), and Sikhs (1.9%) apart from other smaller groups like Jain, Bahais etc. India is home to the

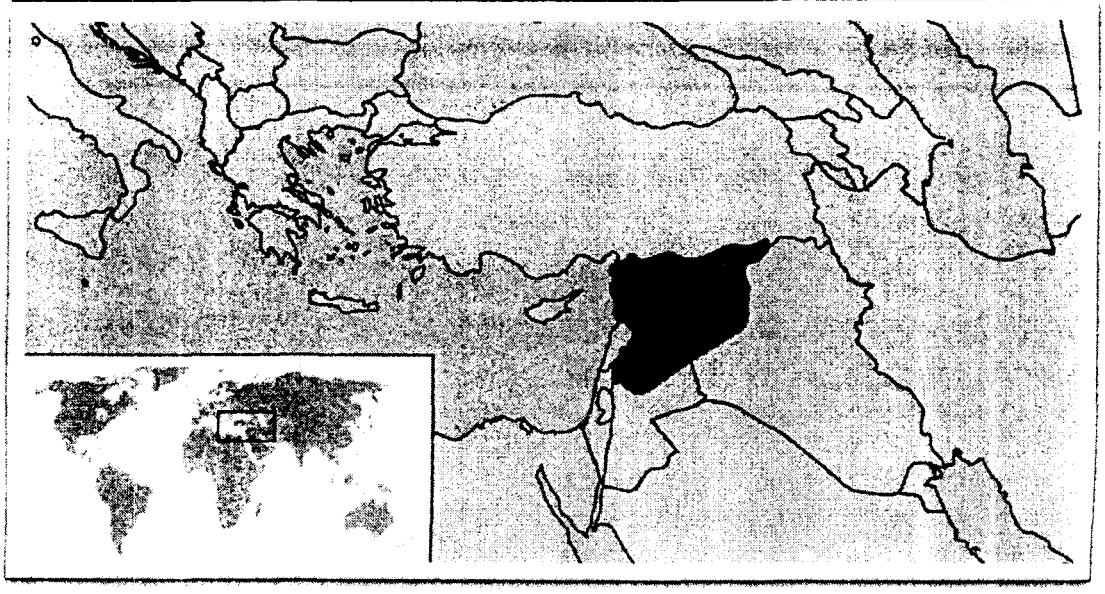
third-largest Muslim population (155 million) in the world after Indonesia (209 million) and Pakistan (169 million).

According to the Telecom Regulatory Authority of India (TRAI), there were 488.40 million wireless subscribers in October 2009 in India (Please, see Table 2.1). It is now the second-largest subscriber market in the world after China (720 million). Wireless subscriber base increased from 471.73 Million in September 2009 to 488.40 Million at the end of October 2009 at a monthly growth rate of 3.53%. Wireless tele-density is at 42.4 per cent now (Please, see Table 2.2) (The Economic Times, 23 Dec, 2009). In 2008-09, rural India outpaced urban India in mobile growth rate. Aided by low tariff plans like per-second billing, the mobile operators have been adding large number of new subscribers. In November 2009, the GSM operators added 11.64 million new mobile subscribers (Economic Times. 23 Dec 2009).

2) The Syrian Arab Republic

Syria, officially the Syrian Arab Republic, is a country in West Asia, bordering Lebanon and the Mediterranean Sea to the West, Turkey to the North, Iraq to the East, Jordan to the South, and Occupied Palestine to the Southwest (Please, see Figure 2.7).

Figure 2.7: Syria in the Map of the World



Syria consists mostly of arid plateau, although the northwest part of the country bordering the Mediterranean Sea is fairly green. The Northeast of the country "Al Jazira" and the South "Hawran" are important agricultural areas. The Euphrates, Syria's most important river, crosses the country in the East. The official currency of Syria is Syrian Pound (US$ 1 = SYP 47).

Arabic is the official and most widely spoken language. The population consists of Muslims (87%), Christians (10%) and Druzes (3%) (International Religious Freedom Report: Syria, 2006)

Syria is a middle-income country with a per capita GNI estimated at US$ 2.090 (World Bank, 2008), with an economy based on agriculture, oil, industry, and tourism. The Syrian economy grew by an estimated 3.3% in real terms in 2007 led by the petroleum and agricultural sectors, which together account for about one-half of GDP. Higher crude oil prices countered declining oil production and led to higher budgetary and export receipts. Modest economic reforms have been implemented in the past few years, including cutting interest rates, opening private banks, consolidating all of the multiple exchange rates, and raising prices on some subsidized items (World Bank, 2009). However, Syria's economy faces problems and challenges and impediments to growth, including a large and poorly performing public sector; declining rates of oil production; widening non-oil deficit; nascent financial and capital markets; and high rates of unemployment tied to a high population growth rate (Report: US Bureau of Near Eastern Affairs, 2007).

Despite developed infrastructure, Syria's telecommunications sector remains highly regulated with some of the region's highest mobile phone charges. Some 7 million Syrians – 38 percent of the country's population – have acquired a mobile phone since mobile services were introduced to the country in 2001. Syriatel accounts for 55 percent of the market and MTN makes up the rest (Birke, 2009).

The current policy of reforms in Syria's telecommunications sector is expected to spark increased interest in the country's telecommunication market. With the number of mobile subscribers in Syria having reached 7.3 million mark in July 2009

(Please, see Table 2.1), the penetration rate stands at 36.2 % (Please, see Table 2.2). Out of them, 6.19 million are prepaid connections (84.8%). In comparison to mobile subscribers, landline subscribers are only 3.71 million as on July 2009 with a penetration rate of 18.5%. Despite good growth, especially since the introduction of prepaid mobile services in 2003, a number of factors continue to limit penetration rates. Some non-urban areas of Syria are not covered by mobile networks and the high cost of local services compared to regional markets is also acting as inhibiting factor.

Table 2.1 Mobile Subscribers in India and Syria

	Mobile Users (in thousands)			
	India		Syria	
Year	No.	%	No.	%
2002	12,688	-	400	-
2003	26,154	106	794	98.68
2004	47,300	80.9	1,449	82.33
2005	76,000	60.7	2,467	70.27
2006	111,633	46.9	3,889	57.63
2007	148,175	32.7	5,611	44.28
2008	277,920	87.6	6,457	15.00
2009	488,400 (Oct)	75.7	7,304 (July)	13.10

Source: International Telecommunications Union, World Bank, Trade Sources and Euromonitor International, 2009

Table 2.2 Mobile Penetration and Growth Rates in India and Syria

	Population (in millions)	Subscribers (in millions)	Penetration Rate %	Subscribers Growth % (2002-2009)
India	1152	488.40	42.4	1726
Syria	20.17	7.30	36.2	3749

Source: Euromonitor International, 2009.

2.6 SUMMARY

This chapter presents different definitions of mobile marketing followed with literature dealing with current approaches to mobile advertising and services adoption. Several technology adoption theories (IDT, TRA, TPB, TAM and UTAUT) have been discussed highlighting the capability of each theory in predicting and explaining behavioural intention and behavior. Furthermore, this chapter presents the country profiles of India and Syria along with the mobile telecommunication scenario.

It should be kept in mind that telecommunications market in India has been shaped by intense competition, with more than 11 operators licensed to serve a population of 1,152 million. This has resulted in dramatic fall in prices compared to Syria where only two operators serve around 20.17 million people. The cost of calls are about 4 times cheaper in India than Syria, also text messages are about 5 times cheaper in India than Syria. Though fundamental differences exist between the pricing structures of the mobile telephony markets in India and Syria, overall penetration rates are not very different, 40.9% and 32.2% for India and Syria, respectively. The next chapter presents the theoretical framework and hypotheses considered for the study.

CHAPTER 3

THEORETICAL FRAMEWORK AND HYPOTHESES

3.1 INTRODUCTION

The previous chapter presents a review of literature of mobile marketing in the context of technology adoption theories. The current chapter discusses and explains the theoretical framework of various models of technology acceptance. In this context, two models have been proposed and discussed. The key factors are expected to influence the intention to adopt mobile advertising and services. Further, the research hypotheses considered for the study have been stated.

Furthermore, literature dealing with IT adoption within cultural context has also been examined. Hopefully, the culture context will enable a comprehensive understanding of individual adoption. In addition, the impact of culture context on adoption of mobile advertising and services has been highlighted. Following that, related hypotheses have been generated to examine whether there exist significant differences between Indian and Syrian respondents.

Moreover, the impact of gender on the factors of adoption intention has also been highlighted in this chapter and related hypothesis generated to test whether there are significant differences among Indian male, Indian female, Syrian male, and Syrian female respondents.

3.2 RESEARCH OBJECTIVES

The study had two broad objectives. The first is to review literature on mobile advertising and services adoption in the context of theories and models of individual adoption of information technology. The second is to propose and validate adoption models of mobile advertising and mobile services in the context of India and Syria. Both theoretical concepts and measures need to be well founded. Thus, theoretical

review was used to secure sufficient validity of theoretical concepts. In addition, the measures of the model were validated empirically. A thorough understanding of the model may help practitioners to analyse the intention towards adopting mobile advertising and services. They would also be of help in taking effective steps to improve user acceptance. According to Davis (1989), practitioners evaluate systems for two purposes, one is to predict acceptability and the other is to diagnose the reasons resulting in lack of acceptance to take proper measures to improve user acceptance. Keeping the above in mind, the specific research objectives of the study were:

1) To review literature on mobile advertising and services adoption in the context of theories and models of individual adoption of information technology viz. Innovations Diffusion Theory (IDT), Theory of Reasoned Action (TRA), Theory of Planned Behaviour (TPB), Technology Acceptance Model (TAM), and The Unified Theory of Acceptance and Use of Technology (UTAUT).
2) To investigate the factors that influence intention of consumers to adopt mobile advertising and services in India and Syria.
3) To propose and test adoption models for mobile advertising for each of the two countries.
4) To propose and test adoption models for mobile services for each of the two countries.
5) To examine the effect of gender on mobile advertising and service adoption in India and Syria.
6) To investigate the differences between Indian and Syrian respondents for mobile advertising and service adoption.

3.3 THEORETICAL BACKGROUND

Five prominent theories and models viz. IDT, TRA, TPB, TAM, and UTAUT have significantly supported development of the theoretical framework for this study. These theories/models have been used by many researchers over the past two decades, especially in the area of Information Systems. Taylor and Todd (1995b) suggest that models should be evaluated in terms of both parsimony and their

contribution to understanding. This research is aimed at generating models for the two countries that could contribute to practical application and a prediction together with better understanding. Before moving to the theoretical framework, the basic concepts that form the theoretical framework are discussed.

3.4 BASIC CONCEPTS

The theories of technology acceptance/adoption which were first developed considered either behaviour intention or usage behaviour as a key dependent variable. However, some longitudinal studies considered both behaviour intention and usage behaviour as dependent variables (Moore & Benbasat 1991; Szajna, 1996).

A number of researchers measured only intention as the key dependent variable (e.g. Agarwal & Karahanna, 2000; Agarwal & Prasad, 1999; Bhattacherjee, 2001; Chau & Hu, 2001, 2002; Chin & Gopal, 1995; Gefen, Karahanna, & Straub, 2003; Gefen & Straub, 2000; Hong, Thong, Wong, & Tam, 2001-2002; Hu, Chau, Sheng, & Tarn 1999; Jackson, Chow, & Leitch, 1997; Karahanna *et al.*, 1999; Mathieson, 1991; Straub, Keil, & Brenner, 1997; Venkatesh & Davis, 1996; Venkatesh & Morris, 2000).

Other researchers measured only usage as the key dependent variable (e.g. Adams *et al.*, 1992; Davis, 1989, 1993; Gefen & Straub, 1997; Heijden, 2003; Hendrickson & Collins, 1996; Igbaria, Parasuraman, & Baroudi, 1996; Igbaria, Zinatelli, Cragg, & Cavaye, 1997; Karahanna & Straub, 1999; Lederer *et al.*, 2000; Subramanian, 1994; Szajna,1994; Teo, Lim, & Lai, 1999; Thompson, Higgins, & Howell, 1991).

Yet another group of researchers measured both intention and usage as the key dependent variables (e.g. Chen, Gillenson, & Sherrell, 2002; Davis, Bagozzi, & Warshaw, 1989, 1992; Mathieson, Peacock & Chin, 2001; Moon & Kim, 2001; Szajna 1996; Taylor & Todd 1995a, 1995b; Venkatesh & Davis, 2000; Venkatesh *et al.*, 2003).

It should be remembered that in a cross-sectional study, data are gathered just once, perhaps over a period of days or weeks or months. On the other hand, in a

longitudinal study data on the dependent variable are gathered at two or more points in time (Sekaran, 2003).

Bauer *et al.,* (2005) point out that as mobile marketing is still in an embryonic stage of commercial deployment, most consumers have not yet had the chance to adopt and use it as an innovation. Thus, overall acceptance should be forecasted by measuring the attitude toward adoption (Bauer *et al.,* 2005). In contrast, if the technology had been introduced for quite a period of time, the actual usage behaviour was usually measured, more specifically in the cross-sectional study.

Measurement of behaviour intention as a predictor of future usage behaviour is important as a key dependent variable in order to predict usage behaviour in the future (Ajzen, 1985; Ajzen & Fishbein, 1980; Davis *et al.*, 1989). More importantly, experience in using the mobile advertising and services will impact on the intention of consumers whether they intend to use the advertising and services more or less in the future. In other words, it is expected that behaviour intention that will be measured in this cross-sectional study will help to identify future usage of the mobile advertising and services.

It is expected that the proposed research models, based on this concept after some tests and modifications (if necessary), could predict future usage based on intention to use the mobile advertising and services.

3.5 THEORETICAL FRAMEWORK OF THE STUDY

A theoretical framework is defined as a collection of theories and models from the literature which underpins a positivistic research study (Hussey & Hussey, 1997). In other words, it is a conceptual model of how the researcher theorises or makes logical sense of the relationships among the several factors that have been identified as important to the problem. Developing such a conceptual framework helps us to postulate or hypothesise and test certain relationships and thus to improve our understanding of the dynamics of the situation. In total, the theoretical framework discusses the interrelationships among the variables that are considered important to the study. It is essential to understand what a variable means and what the different types of variable are. After the theoretical framework has been formulated, then testable hypotheses can be developed to examine whether the

theory formulated is valid or not (Sekaran, 2003). So, the theoretical framework may be referred to as a conceptual framework or as the research model.

The research adoption model of mobile advertising is proposed to consist of eight core constructs viz. attitude towards mobile advertising (AA), subjective norm for mobile advertising (SA), perceived usefulness of mobile ads (UA), compatibility with mobile ads (CA), personal innovativeness (IN), control of mobile ads (C), attitude towards mass media advertising (AM), and awareness of mass media ads (AW). Moreover, we considered one dependent variable which is the intention to adopt mobile advertising (IA).

On the other hand, the research adoption model of mobile services was proposed to consist of five core constructs. They include attitude towards mobile Services (AS), subjective norm for mobile service (SS), perceived usefulness of mobile services (US), Compatibility with mobile services (CS) and Personal innovativeness (IN). Moreover, we considered one dependent variable which is the behavioural intention to adopt mobile services (IS).

Based on the proposed adoption research of mobile advertising model (Please, see Figure 3.1), the following hypotheses were tested: Whether mobile advertising factors (AA, SA, UA, CA, IN, C, G and AW) have an influence on intention to adopt mobile advertising (IA). On the other hand, based on the proposed adoption research model of mobile services (Please, see Figure 3.2), the following hypotheses were tested: Whether mobile service factors (AS, SS, US, CS and IN) have an influence on intention to adopt mobile advertising (IS).

Figure 3.1: The Proposed Research Model for Adoption of Mobile Advertising

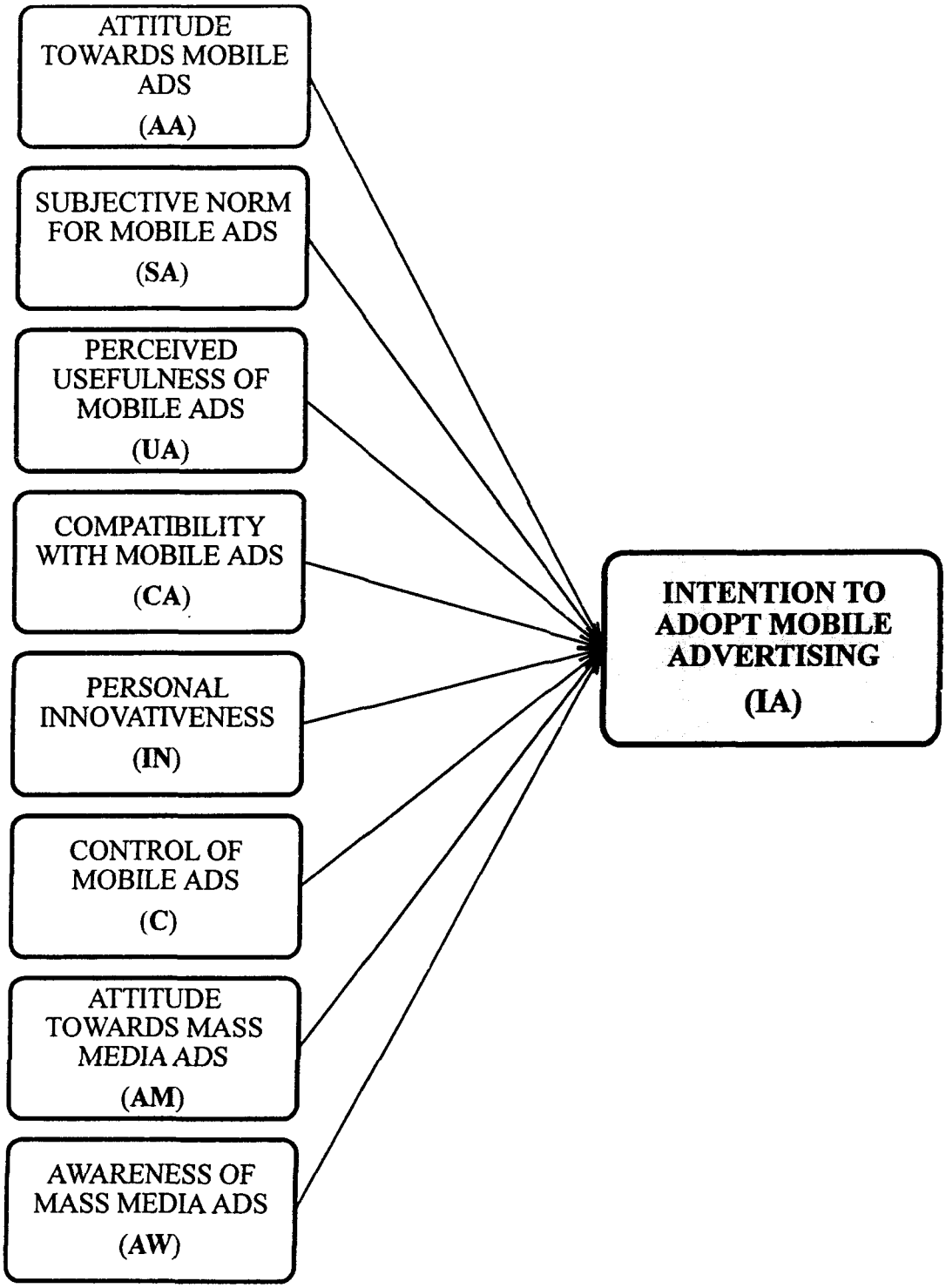
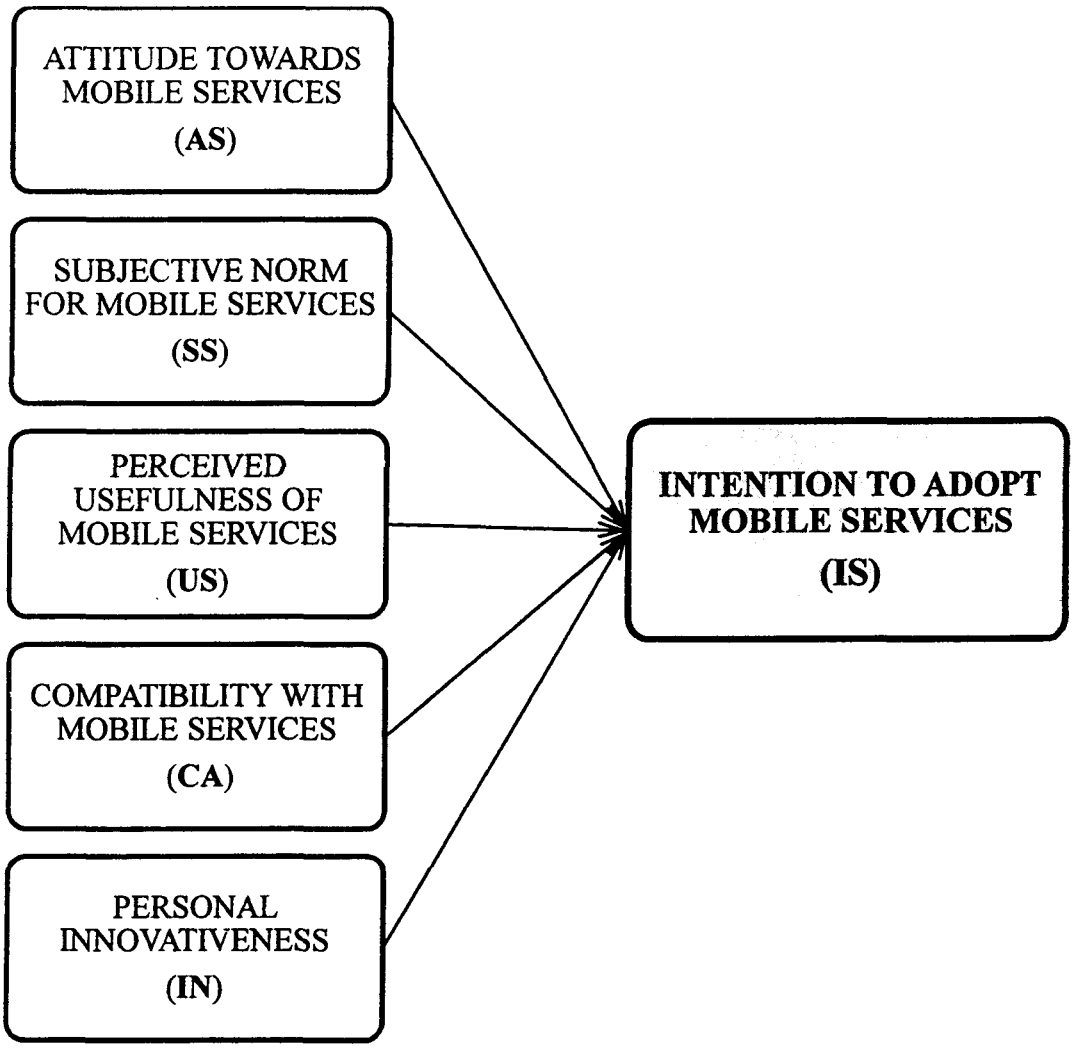


Figure 3.2: The Proposed Research Model for Adoption of Mobile Services



3.6 DIRECT FACTORS

Factors pertaining to user adoption have been identified from technology acceptance/adoption theories/models (Ajzen & Fishbein, 1980; Ajzen, 1985; Davis, 1989; Rogers, 1983; Venkatesh, *et al.*, 2003) as well as from previous research (Bauer *et al.*, 2005; Carlsson *et al.*, 2006; Hsu *et al.*, 2007; Okazaki, 2007a; Merisavo *et al.*, 2007; Moore & Benbasat, 1991; Sweeney & Soutar, 2001).

Keeping in mind the objectives, the direct factors considered in the present study are (1) attitude towards mobile Advertising (AA), (2) subjective norm (SA), (3) perceived usefulness of mobile advertising (UA), (4) compatibility with mobile advertising (CA), (5) personal innovativeness (IN), (6) control of mobile advertising (C), (7) attitude towards mass media advertising (AT), and (8)

awareness of mass media advertising (AW). On the other hand, in the context of mobile services, the factors considered are (1) attitude towards mobile services (AS), (2) subjective norm for mobile services (SS), (3) perceived usefulness of mobile services (US), (4) compatibility with mobile services (CS), and (5) personal innovativeness (IN).

The justification for considering each factor in the proposed research model is given in subsequent sections.

3.6.1 Factors Associated with Mobile Advertising and Services

Based on the extant literature, researcher could identify five major constructs common to mobile services and advertising adoption models viz. attitude towards mobile advertising/services, subjective norm for moble advertising/services, perceived usefulness of mobile advertising/services, compatibility with mobile advertising/services, and personal innovativeness.

3.6.1.1 Attitude Towards Mobile Advertising and Services

In consumer behaviour, attitudes refer to overall evaluations that indicate people's favourability towards action (Hoyer & MacInnis, 2004). Attitudes guide people's cognitive thinking, influence people's affective feelings, and affect people behaviours. Attitude has also been defined as an individual positive or negative feeling towards performing the target behaviour (Fishbein & Ajzen, 1975; Taylor & Todd, 1995b). Also, it is defined as the degree of evaluative affect that an individual associates with using the target system in his job (Davis *et al.*, 1989). In sum, attitudes provide rules that guide behaviours.

In the theories of technology acceptance/adoption, attitude has been considered to be very important and proposed as a main construct in the Theory of Reasoned Action (Ajzen & Fishbein, 1980), the Theory of Planned Behavior (Ajzen, 1985), and Technology Acceptance Model (Davis *et al.*, 1989). In these three theories, the attitude was considered as a direct factor of behavioural intention (Ajzen, 1985; Ajzen & Fishbein, 1980;; Davis *et al.*, 1989, Mathieson, 1991).

In the literature of mobile advertising/services, attitude has been found to be a determinant of behavioural intention to adopt a WAP-enabled mobile phone (Teo

& Pok, 2003), mobile devices/services (Carlsson, *et al.*, 2006), and mobile marketing services (Bauer, *et al.*, 2005). Researchers have shown that differences in attitudes influence the way people interact and make use of their environment (Hofstede, 1984, 2001; Trompenaars, 1993). Moreover, Erumban and Jong (2006) found that adoption decisions are highly subjective to the attitudes of the people. In a cross-cultural study between USA and Taiwan, Muk (2004) observed that young American consumers' intentions to accept SMS advertisements via mobile phones were solely based on attitudinal consideration, whereas young Taiwanese consumers' intention were clearly influenced by social norms as well as attitudinal factors.

Bauer *et al.* (2005) pointed out that as mobile marketing is still in an embryonic stage of commercial deployment, most consumers have not yet had the chance to adopt and use it as an innovation. Thus, acceptance should be forecasted by measuring the attitude toward adoption. Thus, attitude is of major relevance to the development of a model for testing mobile advertising and services adoption.

3.6.1.2 Subjective Norm

Subjective norm (SN) is the perceived pressure to perform or not to perform the behaviour (Ajzen, 1991). It is the person's perception that most people who are important to him think he should or should not perform the behaviour in question (Dillon & Morris, 1996). Taylor and Todd (1995) regarded social influences equivalent to subjective norm and defined this construct in their studies as other people's opinions, superior influences, and peer influences. 'Others' have an important impact on what action a potential adopter chooses to take because individuals adapt their attitudes, behaviours and beliefs to their social context (Salancik & Pfeffer, 1978). Social influence is also defined as the degree to which an individual perceives that other important persons believe he or she should use the system (Venkatesh *et al.*, 2003). The social context may influence an individual's perception that certain important referents think the individual should or should not perform a particular behaviour as well as the individual motivation to comply with the group (Ajzen & Fishbein, 1980).

Many theories of technology adoption such as IDT (Roger, 1995), TPB (Ajzen, 1985), and TRA (Fishbein & Ajzen, 1975) have theorized the subjective norms as a

direct determinant of behavioural intention. However, Technology Acceptance Model (Davis, 1989) has excluded subjective norm as a determinant of usage intention.

In IDT, Roger (1995) pointed out that individuals are usually influenced by their near-peers in adopting new ideas. Word-of-mouth communication usually affects the final acceptance and diffusion of an innovation. In social system, interpersonal networks are important sources of information about the innovation; individuals depend mainly on the subjective evaluations of their near-peers who have already experienced the innovation. Moreover, in TPB, Ajzen (2002) stresses the influence of subjective norms on behavioural intention which is an antecedent of behaviour. Furthermore, TRA stressed that person's intention to perform the behaviour is influenced jointly by the individual's attitude and subjective norm.

In UTUAT, Venkatesh *et al.* (2003) represented subjective norm as *social influence*. Social influence has been regarded a critical element in innovation diffusion literature (e.g. Cooper & Zmud, 1990; Klonglan & Coward, 1970; Laudon, 1985; Triandis, 1971). Triandis (1971) pointed that subjective norm has been known to play a greater influence when behaviour is new. In the initial adoption phase, where the individuals have little or no experience on the related innovation, normative pressure from reference groups to adopt the innovation reduces the perceived risk of adoption. Hartwick and Barki (1994) also concluded in their research that subjective norm is an important factor of behavioural intention. This was especially true for early stages of the innovation diffusion cycle where information on the innovation may be incomplete, potential adopters have to rely on their referent groups for information.

Thus, most of the above referred theories as well as researchers like Lucas and Spitler (1999), and Venkatesh and Morris (2000) have treated subjective norm as a direct determinant of behavioural intention. It is to be remembered that in the context of present study, subjective norm refers to the social influence and the perceived social value of mobile advertising and services that may affect a person's intention to adopt mobile ads and mobile services. That is, it refers to consumer perceptions regarding the adoption of mobile ads and services by taking into account the opinions of the referent group such as friends or colleagues. With this

supported rationale, subjective norm is used as a direct factor in this study and it is expected to influence the adoption intention.

3.6.1.3 Perceived Usefulness

In the literature, perceived usefulness, perceived utility, and relative advantage are analogous. Perceived usefulness (PU) is defined as: "The degree to which a person believes that using a particular system would enhance his or her job performance" (Davis, 1989). That is, people tend to use or not to use an application to the extent that they believe it will help them perform their job better. Moore and Benbasat (1991) defined relative advantage as the degree to which an innovation is perceived as being better than its precursor.

In the theories/models of technology acceptance/adoption, usefulness was considered important and theorized as a main construct (direct factor) of behavioural intention such as Technology Acceptance Model (Davis, 1989, Davis *et al.*, 1989) and the Innovation Diffusion Theory (Rogers, 1995). As suggested by Venkatesh *et al.*, (2003), the perceived usefulness of TAM is analogous to the relative advantage of perceived characteristics of the Rogers' Innovations Diffusion Theory. A careful review of literature shows that relative advantage has been shown to have a significant and positive influence on the adoption of new innovations (Holak & Lehmann, 1990; Hsu *et al.*, 2007; Luarn & Lin, 2005; Teo & Pok, 2003; Tornatzky & Klein, 1982).

Furthermore, research in the area of information system provides evidence of the significant effect of perceived usefulness on usage intention (Agarwal & Prasad, 1999; Davis *et al.*, 1989; Hu *et al.*, 1999; Jackson *et al.*, 1997; Venkatesh, 1999, 2000; Venkatesh & Davis, 1996, 2000; Venkatesh & Morris, 2000).

Moreover, previous research has shown that both perceived utility (perceived usefulness) and perceived value were found to be the strongest positive drivers of consumer acceptance of mobile advertising (Merisavo, *et al.*, 2007; Pura, 2005; Nysveen, Pedersen & Thorbjørnsen, 2005b). Kavassalis *et al.* (2003) claimed that consumers will only accept mobile marketing if they perceive a benefit in receiving advertising messages on their mobile phones. Besides, researchers have highlighted that the usefulness is related to entertainment and informativeness of the mobile advertising content (Tsang, Ho & Liang, 2004; Tähtinen & Salo, 2004). Bauer *et*

al. (2005) identified entertainment value and information value as the strongest drivers of mobile advertising acceptance.

Standing, Benson and Karjaluoto (2005) in their survey of mobile phone users showed that consumers view the benefits of mobile marketing as saving money, saving time and providing useful information. It has also been suggested that when using mobile services or receiving mobile advertising messages, consumers perceive value in relation to the utilization of time and place i.e., contextual information (Pura, 2005).

Ducoffe (1995) defined advertising value as a subjective evaluation of the relative worth or utility of advertising to consumers. He suggested that the advertising values are perceived as general cognitive antecedents of attitudes toward advertising. Thus, what is critically important is that mobile advertising should be carried out with an intention of offering something of value to the consumers (Yuan & Tsao, 2003).

It is expected that perceived usefulness will significantly influence adoption intention of mobile advertising and services. Thus, there exists sound rationale for using perceived usefulness as a direct factor of behavioural intention in the present study.

3.6.1.4 Compatibility

Compatibility is defined as the extent to which adopting the innovation is compatible with what people do (Rogers, 1983, 1995). Also, it is defined as the degree to which the innovation fits with the potential adopter's existing values, past experiences, and current needs (Moore & Benbasat, 1991; Rogers, 1995; Tornatzky & Klien, 1982).

In the theories/models of technology acceptance/adoption, compatibility was considered important and theorized as a main construct (direct factor) of behavioural intention in a number of theories and models including Innovation Diffusion Theory (Rogers, 1995). Many empirical studies have confirmed that the compatibility of an innovation has a positive influence on the adoption of innovation (Cooper & Zmud, 1990; Hsu *et al.*, 2007; Kleijnen, Ruyter, & Wetzels, 2004; Tan & Teo, 2000; Teo & Pok, 2003; Tornatzky & Klein, 1982).

In addition, strong evidence from empirical studies has supported that compatibility was a direct factor influencing adoption of Internet banking (Tan & Teo, 2000), information technology (Cooper & Zmud, 1990), mobile games (Kleijnen *et al.*, 2004) and Multi Media Service (Hsu *et al.*, 2007). Also, Holak and Lehmann (1990) found that compatibility has a large and direct positive impact on purchase intentions.

Hsu, Lu, & Hsu (2007) in their study "Adoption of Mobile Internet" found that for potential adopters, marketing managers should be aware of the importance of compatibility since it can reduce risk and uncertainty of adoption. Teo and Pok (2003) also found that the compatibility with one's values, lifestyle and norms is positively associated with adoption intention of a wireless application protocol enabled mobile phone.

From the above discussion, it is amply clear that there exists sufficient ground to treat compatibility as direct factor influencing intention to adopt in the research model.

3.6.1.5 Personal Innovativeness

Innovativeness is defined as an individual's tendency to seek novelty or to be more receptive to new ideas (Leung & Wei, 1998; Lin, 1998; Lin & Jeffres, 1998; Li, 2003; Rogers, 1995). It refers to a general tendency to search, collect, and distribute novel or original experience ahead of the times (Agarwal & Prasad, 1997; Im, Bayus, & Mason, 2003).

Innovativeness varies from person to person and has been discovered to be critical in technology adoption. Previous research has shown that adopters and non-adopters were differentiated significantly by the variable of innovativeness (Busselle, Reagan, Pinkleton, & Jackson, 1999; Lin, 1998; Lin & Jeffres, 1998).

Past researches have also shown that personal innovativeness increases the rate of adoption of mobile services (Hung, Ku & Chang, 2003), was a significant predictor for the likelihood of adopting internet shopping (Li & Yang, 2000; Li, 2004), was able to predict the intention to adopt the internet in a university (Busselle *et al.*, 1999), and also predicted the intention to adopt interactive cable television services (Li, 2001).

Innovation diffusion research has for long recognized that highly innovative individuals are active information seekers about new ideas. They are able to cope with high levels of uncertainty and develop more positive intentions toward acceptance (Rogers, 1983; 1995). Rogers (1995) suggested that the individuals in a social system do not adopt an innovation at the same time; rather, they can be classified into different categories according to time and sequence of their adoption of innovation. Some individuals accept innovation more readily than others around them. Rogers (1995) used the term innovativeness to describe the degree to which an individual is relatively earlier in adopting new ideas than other members of a system, and based his typology (innovators, early adopters, early and late majority, and laggards) on it. However, as Dowling (1999) points out: "This is a time and behaviour based definition as opposed to a trait or attitude based definition". The latter approach argues that time of adoption is the behaviour one wants to explain using other constructs (Midgley & Dowling, 1978), and one of these constructs is innovativeness, which can be described as a trait-attitudinal disposition to adopt innovations (Dowling, 1999) or as a willingness to try new things (Hurt, Joseph, & Cook, 1977). Thus, several authors argue that innovativeness is an individual trait that leads people to adopt new things (Hirschman, 1980; Manning, Bearden, & Madden, 1995) and that it is permissible to think of a trait that we can term consumer innovativeness (Dowling, 1999). Agarwal and Prasad (1998) proposed personal innovativeness in information technology, and illustrated its moderating effect on the antecedents as well as the consequences of individual perceptions about a new information technology.

Although, innovativeness is not listed as core construct in the theories/models considered in this study, it is very important to investigate whether this construct is a direct factor influencing intention to adopt mobile advertising and mobile services. Thus, personal innovativeness was theorised as a direct factor.

3.6.2 Factors Associated with Mobile Advertising

Three main constructs (control over mobile advertising, attitude towards mass media advertising, and awareness of mass media advertising) have been discussed with justification and explanation for integrating them into the research model of mobile advertising.

3.6.2.1 Control of Mobile Advertising

As mobile phones are very personal devices, consumer perceptions of control over mobile advertising (e.g., how many messages they receive in a given period) are considered important factors that might affect consumer acceptance of mobile advertising (Leppäniemi & Karjaluoto 2005; Nysveen *et al.*, 2005b).

Previous research suggests that consumers' perceived control of mobile advertising is a strong contributor to their willingness to accept mobile advertising (Bauer *et al.* 2005; Carroll, Barnes & Scornavacca, 2005; Tsang *et al.*, 2004). However, an empirical study in Finland indicated that the control is not an important driver of consumer acceptance of mobile advertising (Merisavo *et al.*, 2007).

However, in the context of the present study, control (C) has been considered to be a direct factor and expected to influence behavioural intention.

3.6.2.2 Attitude Towards Mass Media Advertising

In consumer behaviour, people usually recall more accessible or vivid events in memory and therefore use this information in the decision-making process; this is termed the availability heuristic (Hoyer & MacInnis, 2004). When no specific information such as direct experience with the attitude object is available, consumers usually rely on their general knowledge or the availability heuristic to make judgment. Mobile advertising is relatively a new medium and it is reasonable to assume that consumers' beliefs about mobile advertising are formed primarily from their past experiences with mass media advertising. Based on this, the attitude towards mass media was theorised as a direct factor and it is expected to influence adoption intention. Bauer *et al.* (2005) found that one of the most important factors that affects attitude toward mobile marketing is the consumers' attitudes toward advertising in general.

Thus, attitude towards advertising is an important concept as it is one of the determinant of attitude towards specific advertisements (Lutz, 1985) and can influence the way a consumer will respond to any particular advertising (Mehta, 2000).

In the present study, attitude towards mass media advertising (AM) has also been considered as a direct factor and expected to influence intention to adopt mobile advertising.

3.6.2.3 Awareness of Mass Media Advertising

Advertising awareness can be defined as the extent to which consumers consciously view advertising messages in a variety of media, such as television, radio, magazine or Internet (Okazaki, 2007a). A more frequent contact with mass media advertising messages leads to a more positive attitude towards wireless advertising.

There is dearth of sources treating awareness of mass media advertising as a direct factor in the context of mobile advertising and services. It can largely be attributed to lack of importance attached to this construct by previous researchers. However, in the present study, awareness of mass media advertising (AW) has been theorised to be direct factor and expected to influence intention to adopt mobile advertising.

3.7 INTENTION TO ADOPT

Extant theories and models of information system and technology acceptance/adoption such as TRA (Ajzen & Fishbein, 1980), TPB (Ajzen, 1985), TAM (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989), and UTAUT (Venkatesh *et al.*, 2003) treat intention as a dependent construct and it has been used to examine and predict a user's behaviour towards a particular technology or system (Please see Table 3.1). In addition, findings of previous research have consistently shown that significant correlation exists between behavioural intention and usage behaviour (Chen *et al.*, 2002; Davis *et al.*, 1989, 1992; Mathieson *et al.*, 2001; Moon & Kim 2001; Szajna, 1996; Taylor & Todd, 1995a, 1995b; Venkatesh & Davis, 2000; Venkatesh *et al.*, 2003). In the literature dealing with acceptance of technology, though not particularly in the context of mobile marketing, intention has been treated as key dependent variable (Agarwal & Karahanna, 2000; Agarwal & Prasad ,1999; Bhattacherjee, 2001; Chau & Hu, 2001, 2002; Chin & Gopal, 1995; Gefen *et al.*, 2003; Gefen & Straub, 2000; Hong *et al.*, 2001-2002; Hu *et al.*, 1999; Jackson *et al.*, 1997; Karahanna *et al.*, 1999; Mathieson, 1991; Straub *et al.*, 1997; Venkatesh & Davis, 1996; Venkatesh & Morris, 2000). Behavioural

intention is often predicted on the basis of multi attribute models (Fishbein & Ajzen, 1975). In the present study, behavioural intention has been theorized to be a dependent variable and was measured and investigated.

Table 3.1: Constructs of Technology Adoption Theories

Theory	Dependent Construct	Independent Constructs
Theory of Reasoned Action (Ajzen & Fishbein, 1980)	Behavioral Intention	Attitude Toward Behavior
		Subjective Norm
Theory of Planned Behavior (Ajzen, 1985)	Behavioral Intention & Behavior	Attitude Toward Behavior
		Subjective Norm
		Perceived Behavioral Control
Technology Acceptance Model (Davis, 1989; Davis *et al.*, 1989)	Behavioral Intention & Use	Perceived Usefulness
		Perceived Ease of Use
		Attitude
Innovation Diffusion Theory (Rogers, 1983, 1995)	Technology Adoption	Compatibility
		Ease of use
		Relative Advantage
Unified Theory of Use and Acceptance of Technology (Venkatesh *et al.*, 2003).	Behavioral Intention & Use Behavior	Performance Expectancy
		Effort Expectancy
		Social Influence
		Facilitating Conditions

3.8 CULTURE AND MOBILE MARKETING ADOPTION

Hofstede (1997) defines culture as a collective programming of the mind which distinguishes the members of one group or category of people from another. Culture shapes individual values and affects behaviour. Alternately, culture has been defined as set of basic values, perceptions, wants and behaviours learnt by a member of society and other important institutions (Khan & Khan, 2006). The core values that shape the behaviour of individuals and the whole society also have an impact on an individual's decision-making process towards using a technology (Han, 2003).

Harris *et al.* (2005) emphasized critical role of cultural factors and found significantly different usage patterns of attitude formations to various mobile services. Individuals are socialized early in life into a national culture with a group of values which influence what information is processed (Hofstede, 2001).

Hofstede's cultural dimensions have been used to explore the impact of cultural differences on technology acceptance (Straub, Keil, & Brenner, 1997; Al-Gahtani *et al.*, 2007; Erumban & Jong, 2006; Ford, Connelly, & Meister, 2003). Fofstede's framework originally consisted of four cultural dimensions (Power Distance, Uncertainty Avoidance, Individualism and Masculinity). A fifth dimension was included later (Long-Term Orientation) and since its score is not available for Syria, we will only discuss the remaining four dimensions.

- The power distance (PD): it refers to the inequality of the distribution of power in a country. Cultures with a high degree of power distance are expected to be less open to new ideas. A study by Erumban and Jong (2006) explored the information and communication technology adoption across 42 countries by using Hofstede's cultural dimention and found that Countries with a high PD score will show a lower rate of information and communication technology (ICT) adoption than countries with a low PD score. The score of PD is almost same for India and Syria.
- Individualism (IDV): it focuses on the degree the society reinforces individual or collective achievement and interpersonal relationships. Low IDV typifies societies of a more collectivist nature with close ties between individuals. These cultures reinforce collectives where everyone takes responsibility for fellow members of their group. Erumban and Jong (2006) found that Countries with a high IDV score show a higher rate of information and communication technology adoption than countries with a low PD score. Table 3.2 shows that the score of IDV of India (48) is more than the Syrian score (38).
- Masculinity (MAS): masculine cultures are characterized by competition, ambition and a focus on performance and material values. Feminine cultures are characterized by solidarity, equality, consensus seeking and concern about social relationships. Erumban and Jong (2006) found that countries adoption rates are not affected by a country's characteristics in terms of masculinity. However, the scores of MAS are almost same for India (56) and Syria (52).

- Uncertainty Avoidance (UA): Hofstede (1984) defines uncertainty avoidance as ''the degree to which members of a society feel uncomfortable with uncertainty and ambiguity''. Since the adoption of a new technology means getting involved into something new, the extent of uncertainty attached to it is also greater (Stoneman, 2001). Freeman and Soete (2000) consider the variation in countries' ability to take risks and to assess new innovations as the cause of the slow diffusion rates across countries. Bauer *et al.* (2005) found that adoption of mobile marketing as an innovation is strongly influenced by perceived risk. The UA score of Syria (68) was higher than India (40).

Table 3.2 shows country scores of culture dimensions for the India and Syria. It is to be noted that Syria ranks much higher than India in uncertainty avoidance, approximately the same in power distance and masculinity. However, India ranks higher in individualism. High uncertainty avoidance deals with tolerance for uncertainty and ambiguity. It indicates to what extent a person feels uncomfortable in unstructured situations. Straub, Loch and Hill (2001) developed a cultural influence model and suggested that Arab cultural beliefs were a strong predictor of resistance to IT transfer.

Table 3.2 Hofstede Country Scores for INDIA and Arab World (SYRIA)

Cultural Dimension	India	Arab World (Syria)
PD	77	80
IDV	48	38
MAS	56	52
UA	40	68
LTO	61	N/A

According to Ticehurst and Veal (2000), culture can influence the outcomes of research. Culture can have an impact on an individual's decision to adopt and use a specific system (Myers & Tan, 2002). Trompenaars and Woolliams (2004) in their book "Marketing Across Cultures" show that culture is the dominant factor that pervades all relationships and behaviours.

De Mooij (2001) argues that patterns of national culture help explain the differences in consumer behaviour across nations. A growing field of research

supports that culture influences the adoption of technology (Al-Gahtani *et al.*, 2007; Erumban & Jong, 2006; Ford *et al.*, 2003; Straub *et al.*, 1997; Takada & Jain, 1991). Takada and Jain (1991) pointed out that cross-national differences in adopting an innovation can be subscribed to individual nation's cultures. Straub, Keil and Brenner (1997) studied three countries: USA, Switzerland and Japan in order to explain different email adoption levels in terms of cultures. The results were not able to provide empirical evidence that culture explained any of the variance. The results indicated that TAM holds for both US and Switzerland but not for Japan (Straub *et al.*, 1997) implying that TAM may not predict technology use across all cultures in the world (Gefen & Straub, 1997). In other words, this finding is an example of culture that does impact on IT adoption and use. A cross-cultural research involving respondents from USA and Taiwan revealed that culture has a bearing on consumer intentions to accept SMS ads. In fact, two culture dimensions—individualism and uncertainty avoidance—were found to have significant effect on consumer innovation decisions (Muk, 2004).

Mobile devices function as part of networks, and therefore cannot be used in isolation. Patterns of usage become, therefore, collective rather than individual phenomena and are therefore influenced more strongly by culture than they would be if they were truly individual-level phenomena. Studies show that culture plays a major role in shaping usage of and attitudes to mobile commerce services (Harris, Rettie, & Kwan, 2005). A cross-cultural approach to research on usage of and attitudes to mobile communications is, therefore, both justified and necessary (Harris *et al.*, 2005).

According to Keillor, D'Amico, and Horton (2001), young consumers around the world, regardless of culture and national background, think more alike than do older individuals. People with higher education seem less likely to succumb to culture pressures. Thus, it was appropriate to consider sample comprising students for our study. By extending the study of consumers' intention to adopt mobile advertising and services to a cross-culture context, the hypotheses of this study aimed at examining whether cultural differences between India and Syria have significant impact on the fourteen constructs of the study (IA, IS, AA, AS, SA, SS, UA, US, CA, CS, IN, C, AM, and AW).

3.9 GENDER AND MOBILE MARKETING

Gender has been identified as an important segmentation variable (Putrevu, 2001). The reasons why gender so frequently is applied as a segmentation strategy are threefold: *first*, gender information is easily identifiable and accessible. *Second*, gender segments are measurable and responsive to marketing mix elements. *Finally*, gender segments are sufficiently large and profitable (Darley & Smith, 1995). Wolin (2003) found that men and women tend to perceive advertising messages differently. Gender was found to affect the IT adoption process (Gefen & Straub 1997; Venkatesh & Davis 2000). Men were found over-represented in electronic communities" (Yang & Lester, 2005). Carlsson *et al.* (2006) found gender to be a predictor of the future adoption of advanced financial mobile services. Moreover, Okazaki (2007b) examined gender effects on mobile advertising adoption and he found that gender significantly influences how people perceive mobile advertising. He also found Japanese females to be holding more favourable attitude toward mobile ads than males.

Gender is also frequently being identified as a key moderator in consumer behavior studies (Bendall-Lyon & Powers, 2002; Dommeyer & Gross, 2003; Mouthinho & Goode, 1995) and studies of technology usage (Gefen & Straub, 1997; Venkatesh, 2003; Venkatesh & Morris, 2000).

However, there is serious dearth of research on effect of gender on mobile advertising and services in general. Only two studies could be found in the context of mobile marketing. One of them examined mobile chat service adoption in Finland (Nysveen *et al.*, 2005a) and the other explored gender effects in mobile advertising context in Japan (Okazaki, 2007b). Such scarcity of empirical evidence attests to the need for including gender in our study. Thus, hypotheses will be tested to find out whether gender has any significant impact on the fourteen constructs of the study (IA, IS, AA, AS, SA, SS, UA, US, CA, CS, IN, C, AM, and AW).

3.10 RESEARCH HYPOTHESES

The hypotheses have been divided into two sections: the *first section* contains hypotheses related to mobile advertising while the *second section* has hypotheses related to mobile services. The hypotheses in each section have further been categorized into three groups. Groups A_A, B_A, and C_A come under mobile advertising section, whereas, groups A_S, B_S, and C_S come under mobile services section. The hypotheses in Groups A_A and A_S contain hypotheses related to testing significant differences between the Indian and the Syrian respondents vis-a-vis each construct. In Groups B_A and B_S, the hypotheses are related to investigating the differences with respect to gender for each construct. Lastly, the hypotheses in Groups C_A and C_S are related to testing of the direct paths between key factors and behavioural intention.

3.10.1 Hypotheses Related to Mobile Advertising

1) Group A_A

These hypotheses test the significant differences between Indian and Syrian respondents with respect to nine constructs (AA, SA, UA, CA, IN, C, AM, AW, & IA) considered in this study.

H_{1AA} Significant differences do not exist between Indian and Syrian respondents regarding attitude towards mobile ads (AA).

$H2_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding subjective norm for mobile ads (SA).

$H3_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding perceived usefulness of mobile ads (UA).

$H4_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding compatibility with mobile ads (CA).

$H5_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding personal innovativeness (IN).

$H6_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding control of mobile ads (C).

$H7_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding attitude towards mass media ads (AM).

$H8_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding awareness of mass media ads (AW).

$H9_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding intention to adopt mobile ads (IA).

2) Group B_A

These hypotheses test the influence of gender on the nine constructs (AA, SA, UA, CA, IN, C, AM, AW, & IA) considered in this study.

$H1_{BA}$ Significant differences do not exist between respondents based on gender regarding attitude towards mobile ads (AA).

$H2_{BA}$ Significant differences do not exist between respondents based on gender regarding subjective norm for mobile ads (SA).

$H3_{BA}$ Significant differences do not exist between respondents based on gender regarding perceived usefulness of mobile ads (UA).

$H4_{BA}$ Significant differences do not exist between respondents based on gender regarding compatibility with mobile ads (CA).

$H5_{BA}$ Significant differences do not exist between respondents based on gender regarding personal innovativeness (IN).

$H6_{BA}$ Significant differences do not exist between respondents based on gender regarding control of mobile ads (C).

$H7_{BA}$ Significant differences do not exist between respondents based on gender regarding attitude towards mass media ads (AM).

$H8_{BA}$ Significant differences do not exist between respondents based on gender regarding awareness of mass media ads (AW).

$H9_{BA}$ Significant differences do not exist between respondents based on gender regarding intention to adopt mobile ads (IA).

3) Group C_A

The following hypotheses were considered for testing the significance of direct paths between eight key factors (AA, SA, UA, CA, IN, C, AM, & AW) and intention to adopt mobile advertising (IA).

$H1_{CA}$ Attitude towards mobile ads (AA) has direct and significant influence on intention to adopt mobile ads (IA).

$H2_{CA}$ Subjective norm for mobile ads (SA) has direct and significant influence on intention to adopt mobile ads (IA).

$H3_{CA}$ Perceived usefulness of mobile ads (UA) has direct and significant influence on intention to adopt mobile ads (IA).

$H4_{CA}$ Compatibility with mobile ads (CA) has direct and significant influence on intention to adopt mobile ads (IA).

$H5_{CA}$ Personal innovativeness (IN) is positively related to intention to adopt mobile ads (IA).

$H6_{CA}$ Control of mobile ads (C) has direct and significant influence on intention to adopt mobile ads (IA).

$H7_{CA}$ Attitude towards mass media ads (AM) has direct and significant influence on intention to adopt mobile ads (IA).

$H8_{CA}$ Awareness of mass media ads (AW) has direct and significant influence on intention to adopt mobile ads (IA).

3.10.2 Hypotheses Related to Mobile Services

1) Group A_S

The following hypotheses were considered for testing the significant differences between Indian and Syrian respondents regarding six constructs (AS, SS, US, CS, IN, & IS) of this study.

$H1_{AS}$ Significant differences do not exist between Indian and Syrian respondents regarding attitude towards mobile services (AS).

$H2_{AS}$ Significant differences do not exist between Indian and Syrian respondents regarding subjective norm for mobile services (SS).

$H3_{AS}$ Significant differences do not exist between Indian and Syrian respondents regarding perceived usefulness of mobile services (US).

$H4_{AS}$ Significant differences do not exist between Indian and Syrian respondents regarding compatibility with mobile services (CS).

$H5_{AS}$ Significant differences do not exist between Indian and Syrian respondents regarding personal innovativeness (IN).

2) Group B_S

The following hypotheses were considered for testing the significant influence of gender on five constructs (AS, SS, US, CS, IN, & IS) of this study.

$H1_{BS}$ Significant differences do not exist between respondents based on gender regarding attitude towards mobile services (AS).

$H2_{BS}$ Significant differences do not exist between respondents based on gender regarding subjective norm for mobile services (SS).

$H3_{BS}$ Significant differences do not exist between respondents based on gender regarding perceived usefulness of mobile services (US).

$H4_{BS}$ Significant differences do not exist between respondents based on gender regarding compatibility with mobile services (CS).

$H5_{BS}$ Significant differences do not exist between respondents based on gender regarding personal innovativeness (IN).

3) Group C_S

The following hypotheses were considered for testing the significance of direct paths between five key factors (AS, SS, US, CS, and IN) and the intention to adopt mobile services (IS).

***H1*$_{CS}$** Attitude towards mobile services (AS) has direct and significant influence on intention to adopt mobile services (IS).

***H2*$_{CS}$** Subjective norm for mobile services (SS) has direct and significant influence on intention to adopt mobile services (IS).

***H3*$_{CS}$** Perceived usefulness of mobile services (US) has direct and significant influence on intention to adopt mobile services (IS).

***H4*$_{CS}$** Compatibility with mobile services (CS) has direct and significant influence on intention to adopt mobile services (IS).

***H5*$_{CS}$** Personal innovativeness (IN) has direct and significant influence on intention to adopt mobile services (IS).

3.11 MEASUREMENT ITEMS

Measurement items used in this research have been adapted from theories and related research including those of Agarwal and Prasad (1998), Bauer *et al.*, (2005), Pollay and Mittal (1993), Carlsson *et al.*, (2006), Hsu *et al.*, (2007), Leavitt and Walton (1975), Merisavo *et al.* (2007), Moore and Benbasat (1991), Okazaki (2007a), Sweeney and Soutar, (2001), Sheehan and Hoy (1999, 2000), Davis (1989), Taylor and Todd (1995b), and Venkatesh *et al.*, (2003). However, based upon objectives of the study, some additional items were also added by the researcher (Please see Table 3.3).

Table 3.3 Measurement Items

Intention towards advertising / services	Item Source
I intend to use mobile advertising / services in the future	(Venkatesh *et al.*, 2003)
I will strongly recommend others to use mobile advertising / services	(Hsu *et al.*, 2007)
I want to be among the first ones to try out mobile advertising / services	(Carlsson *et al.*, 2006)

Attitude towards mobile advertising/services	Item Source
I think mobile advertising / services would be necessary	Self-created
I think mobile advertising / services would be useful	(Okazaki, 2007a)
I think mobile advertising /services would be interesting	(Venkatesh *et al.*, 2003)
I think mobile advertising / services would be satisfying	Self-created
I think mobile advertising / services would be fashionable	Self-created

Subjective Norm	Item Source
I think using mobile advertising / services will help me feel acceptable among my friends/family	(Sweeney & Soutar, 2001)
Advertising / services will make a good impression on other people	(Sweeney & Soutar, 2001)
Mobile Advertising/services will give me social approval	(Sweeney & Soutar, 2001)

Perceived Usefulness	Item Source
I think mobile ads / services would be informative	(Okazaki, 2007)
Advertising / services will save my money	(Merisavo *et al.*, 2007)
Advertising / services will save my time	(Davis, 1989)
I think participating in mobile ads / services is fun	(Bauer *et al.*, 2005)
I think mobile ads / services is useful in gathering information	(Davis, 1989)

Compatibility	Item Source
Advertising / services fits well with my lifestyle	(Moore & Benbasat, 1991)
Advertising / services fits well with my needs	(Taylor & Todd, 1995b)
Advertising / services suits all aspects of my life	(Moore & Benbasat, 1991)

Personal Innovativeness	Item Source
Often I try new things before my friends do	(Leavitt & Walton , 1975)
I really like collecting interesting information and recommending new things to my friends	(Okazaki, 2007a)
I must see other people using innovations before I will consider them.	(Agarwal & Prasad, 1998)
I am usually eager to try a new thing as soon as it is available	(Okazaki, 2007a)

Control	Item Source
I must have the power to decide whether to receive mobile advertisements or mobile services	Self-created
I would only be prepared to receive mobile advertisements if I had given my permission	(Merisavo *et al.*, 2007)
It is important for me that I can refuse to receive mobile ads	(Merisavo *et al.*, 2007)
It is important for me that I can filter mobile advertisements to match my needs	(Merisavo *et al.*, 2007)
I would like to receive mobile advertisements only at particular times.	Self-created
It is important for me that I can control the permission to receive mobile advertisements	(Merisavo *et al.*, 2007)

Attitude towards mass media advertising	Item Source
I generally pay attention to advertising	(Pollay & Mittal, 1993)
In general advertising is pleasant	(Pollay & Mittal, 1993)
Commercials in TV programs annoy me	(Pollay & Mittal, 1993)
Advertising on Web pages (banner, pop-up) irritate me	(Pollay & Mittal, 1993)

Advertising Awareness	Item Source
I frequently read newspaper advertisements	(Okazaki, 2007a)
I frequently read magazine advertisements	(Okazaki, 2007a)
I frequently watch television advertisements	(Okazaki, 2007a)
I frequently click on Internet advertisements	(Okazaki, 2007a)

It is to be noted that each multi-item scale considered for the study was factor-analyzed, separately for the two countries i.e. India and Syria, to evaluate dimensionality; and reliability analysis was performed to determine if each item contributed to scale reliability. Besides, correlational analysis was applied to confirm the validity of the construct. The procedure followed has been explained in detail in Chapter 5.

3.12 SUMMARY

In this chapter, two research models have been proposed based on extant theories and models of technology acceptance/adoption as well as on literature related to mobile marketing. To verify the two proposed research models, direct path hypotheses have been considered. Structural Equation Modelling (SEM) technique has subsequently been employed to test the proposed hypotheses in relation to the theoretical framework. After that, the effects of culture and gender on the adoption of mobile advertising and services have been presented.

A detailed explanation of the analytical techniques used to achieve objectives of this study has been provided in the Chapter of Research Methodology.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 INTRODUCTION

There are three basic types of research designs. They include exploratory, descriptive, and causal designs used to collect primary data and create data structures and information (Hair, Bush, & Ortinau, 2003). The research methodology and methods for this research were chosen in order to successfully achieve the research objectives. The justification of choices and uses will be presented in this chapter. The rationale will be discussed and explained in terms of research process, design, development of the instrument, pilot study, sample and data collection, and data analysis. The developments of the relevant research instrument along with outline of problems encountered in the survey have also been discussed.

4.2 RESEARCH PROCESS

This research was conducted as follows:

1) Obtaining information through literature survey so that we could identify how mobile advertising and services adoption have been tackled by other researchers in different situations.

2) Developing a model incorporating the relevant factors contributing to the behaviour intention to adopt mobile advertising and services. It included reviewing of prominent theories and models of technology adoption.

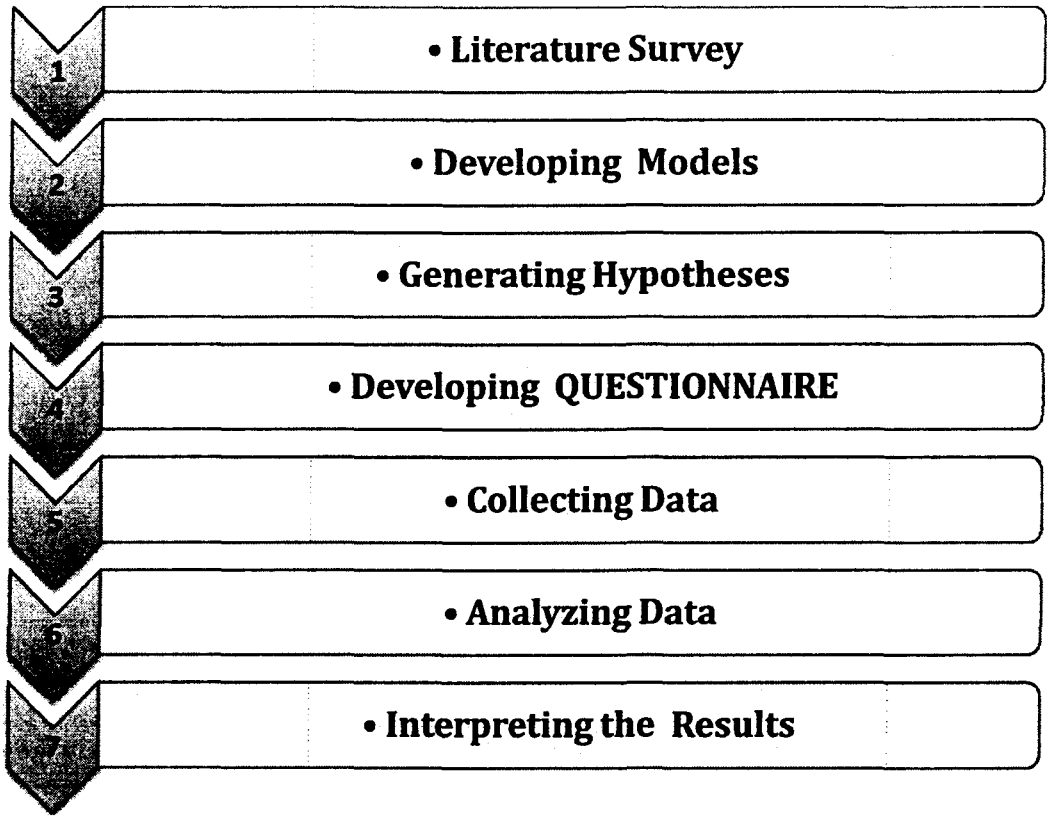
3) Generating various hypotheses to examine whether the models formulated were valid or not.

4) Developing a questionnaire as a survey tool to collect data.

5) Analyzing data obtained through the questionnaire to see what factors influence behavioural intention.

6) Interpreting the meaning of the results of the data analyzed and arriving at conclusions

Figure 4.1: Schematic Diagram for Research Process



4.3 RESEARCH DESIGN

The research design is the step aimed at designing the research study in such a way that the essential data can be gathered and analysed to arrive at a solution. The following are the design considerations for this research in accordance with the guidelines suggested by Sekaran (2003).

1. **The Purpose of the Study:** The purpose was hypothesis testing in nature because usually studies relating to hypothesis testing explain the nature of certain relationships; establish the differences among groups or the independence of two

or more factors in a situation. In other words, hypothesis testing is undertaken to explain the variance in the dependent variable. Hypothesis testing offers an enhanced understanding of the relationships that exist among variables, and could also establish cause and effect relationships.

2. **The Type of Study:** It is a correlational study since it is interested in delineating the important variables that are associated with the adoption of mobile advertising and services. It is also a causal study since it attempts to establish cause-and-effect relationships through certain types of correlational or regression analyses such as path analysis.

3. **The Study Setting:** As this research is a correlational study it was conducted in non-contrived settings, whereas rigorous causal studies are done in contrived lab settings.

4. **Unit of Analysis:** Since student samples can be useful when trying to understand relationships between constructs (Mackenzie, Scott, & Richard, 1989), the unit of analysis was an individual student. Also, this particular age group seems to be more involved with mobile phone (Barwise & Strong, 2002). Using university students as matched samples from the two countries also helped control the exogenous variables that might confound results of cross-cultural research (Straub, 1994).

5. **Time Horizon of the Study:** This research study is a cross-sectional study because it aimed to collect data just once, perhaps over a period of months in order to answer the research objectives.

6. **Data Collection:** It refers to the process of collecting data associated with variables in the hypotheses being considered for the study. In the present study, a structured closed-ended questionnaire designed specifically for the study was personally administered by the researcher on the student respondents in the two countries i.e. India and Syria.

7. **Data Analysis:** The step where data is analysed statistically to see if the hypotheses can be substantiated (For details please see Chapter 5).

4.4 SURVEY RESEARCH METHODOLOGY

Methodology is the strategy, plan of action, process, or design lying behind the choice and use of particular methods and linking the choice and use of methods to the desired outcomes (Crotty, 1998). Hussey and Hussey (1997) also define methodology as the overall approach to the research process, from the theoretical underpinning to the collection and analysis of data, and also suggest that methodology is concerned with the following main issues: why you collected certain data, what data you collected, from where you collected it, when you collected it, how you collected it, and how you will analyse it.

4.4.1 Methodology Strategy

Among several methodologies viz. experimental research, survey research, ethnography, etc., the survey research methodology was considered to be the most appropriate for this research. It is concerned with drawing a sample of subjects from a population and studying this in order to make inferences about the population. In the case of a large population, only a sample of the whole population is used (Hussey & Hussey, 1997). This was the case for this study. In particular, this study was classified as an analytical survey where the main intention was to determine whether there exists any relationship between different variables. Because methodology is the process or design lying behind the choice and use of particular methods and linking to the desired outcomes (Crotty, 1998), it was therefore necessary to identify which methods should be used in the research. Methods are the various means or techniques or procedures used to gather and analyse data related to some research question or hypothesis (Crotty, 1998; Hussey & Hussey, 1997). Methods used in this research were categorised into two groups (1) questionnaire method which is the most important method used to collect primary data in the survey, and (3) many statistical methods were used to analyse data such as descriptive statistics, T-tests, ANOVA and Structural Equation Modelling (For details please see Chapter 5).

Administering questionnaire is one of the main data collection methods in survey research (Gay & Diehl, 1992; Sekaran 2003; Veal, 2005). On the other hand, even though the primary data source for this research was questionnaire, it was often

necessary to make use of other existing information viz. secondary data such as government statistics and previous research (Ticehurst & Veal, 2000), obtained through the literature survey (Please see Chapter 2). Secondary data are data that already exist and do not have to be collected by the researcher (Sekaran, 2003).

4.4.2 Questionnaire Method

A questionnaire is a pre-formulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives (Sekaran, 2003). The rationales behind the use of questionnaire method as a major survey tool in this research are:

1) It was used because it is an efficient data collection mechanism when the researcher knows exactly what is required and how to measure the variables of interest. Field studies, comparative surveys and experimental designs often use questionnaires to measure the variables of interest (Sekaran, 2003).
2) It was used because quantified information is required concerning a specific population and students' behaviour and attitudes are acceptable as a source of information (Ticehurst & Veal, 2000).

Sekaran (2003) suggests that the advantage of the questionnaire method is that administering questionnaires to large numbers of individuals simultaneously is less expensive and less time consuming than other methods. It also does not require as much skill to administer a questionnaire.

The questionnaires were personally administered, because it is one of the best ways to collect data when the survey is confined to a local area (Sekaran, 2003) as was the case with students in the present study.

As already mentioned, questionnaire technique was used as the main technique to collect data for this study. It is to be noted that survey research methodology has been employed by previous researchers also in studies focusing on mobile marketing and services. For example, Teo and Pok (2003), Harris *et al.* (2005), Hung and Chang (2005), Lu, Yao, and Yu (2005), Bauer *et al.* (2005), Carlsson *et al.* (2006), Hsu *et al.* (2007), Lin (2007), Turel *et al.* (2007), Okazaki (2007a), Okazaki and Taylor (2008), etc.

4.5 DEVELOPMENT OF THE QUESTIONNAIRE

Before going into the stage of questionnaire design, an extensive review of literature was carried out to develop a questionnaire for the present study. Prior to developing measurement instrument for conceptual constructs proposed in this study, an exhaustive search for existing developed scales in the literature was made.

4.5.1 Questionnaire Design

This study employed a structured closed ended questionnaire designed to collect primary data designed to measure university students' adoption of mobile advertising and services in India and Syria. We used a paper and pencil questionnaire instead of an online questionnaire to reduce the problems and limitations placed by an Internet-based questionnaire survey (Thompson, Surface, Martin, & Sanders, 2003).

Measurement items used in this research have been adapted from theories and related research including Agarwal and Prasad (1998), Bauer, Barnes, Reichardt and Neumann (2005), Carlsson, Carlsson, Hyvönen, Puhakainen, and Walden (2006), Hsu, Lu, and Hsu (2007), Leavitt and Walton (1975), Merisavo *et al.* (2007), Moore and Benbasat (1991), Okazaki (2007a), Sweeney and Soutar, (2001), Sheehan and Hoy (1999, 2000), Davis (1989), Taylor and Todd (1995b), and Venkatesh, Morris, Davis, and Davis (2003). However, as already discussed, some additional items were developed by the researcher.

With necessary inputs from the researches referred above, the researcher attempted to design a questionnaire in accordance with the suggestions of Tull and Hawkin (1990), in that the overall questionnaire should reflect the research objectives by logically moving from one topic to another. It was essential to attach a covering letter to introduce respondents to the study and explain the survey objectives. To establish credentials and legitimacy, the covering letter explained that the study was a doctoral research project of Aligarh Muslim University, Aligarh, India, and that all information obtained would be subject to anonymity and confidentiality and used only for the purposes of the present study. The questions were structured and separated into two sections (Please see Appendix A & B). The researcher used a 5-

point Likert scale in the questionnaire because it is extremely popular for measuring attitudes and is simple to administer (Malhotra, 2005). With the Likert scale, respondents indicate their attitudes by checking how strongly they agree or disagree with the statement. The scale ranges from strongly agree =1, agree = 2, neutral = 3, disagree = 4, strongly disagree = 5.

The English version of the questionnaire (Please see Appendix A) was used on respondents in India only. It should be remembered that English is the medium of instruction in universities and business schools included for survey in India. Thus, no difficulty was faced in using the English version in India. However, Syrian students normally use Arabic language for everyday life, and don't possess sufficient proficiency in English. Thus, it was thought appropriate to translate the questionnaire from English to Arabic. To ascertain that the translation was equivalent, the survey instrument originally constructed in English was translated into Arabic language. Berry (1980) suggested that the goal of translation is conceptual equivalence to obtain instruments that elicit responses which convey similar meanings to members of various groups. Double translation method (discussed is subsequent sections) was considered to be the most appropriate for this study because this process has been described as one of the most suitable (Marin & Marin, 1991). Thus, Prior to using the Arabic version of the questionnaire in the main survey, pre-tests and a pilot study were exercised by using the double translation process to ensure proper translation of the survey, in order to avoid confusion or misinterpretation (Brislin, Lonner, & Thorndike, 1973).

4.5.2 Pre-testing of the Questionnaire

Pre-testing is a trial run with a group of respondents for the purpose of detecting problems in the questionnaire instructions or design, whether the respondents have any difficulty understanding the questionnaire or whether there are any ambiguous or biased questions (Sekaran 2003).

The aim of pre-testing the questionnaire was to ensure that the content as well as the mechanics of compiling the questionnaire had been satisfactory. It establishes a content validity of the scales. Hair *et al.* (2003) pointed out that to establish a scale's

content validity is to ensure its ability to measure what it is designed to measure. This was fulfilled by asking respondents first to complete the questionnaire and then to comment on its length, scale, formats, wording, and instructions. Based on respondents' feedback, slight modifications were made to a few items to correct some ambiguity in wording.

The objective of pre-testing is to evaluate the items used in the design questionnaire (Hair, Black, Babin, Anderson, & Tatham 2006). Sekaran (2003) suggests that it is important to pre-test the questionnaire used in the survey to ensure that the respondents understood the questions posed and that there is no ambiguity and no problems associated with wording or measurement. The size of the pre-testing group may be 25 or 50 subjects (Zikmund, 2003). In this study, the first pre-testing was conducted on students in India. Around 25 English-language questionnaires were distributed to university students who were mobile users to ensure accuracy and consistency of the responses.

The suggestions highlighted some potential problems with wording and other ambiguities. It is important to give careful consideration to wordings because question wording substantially influences accuracy (Zikmund, 2003). So, some of the items were refined, re-worded or changed to be more representative of the intended constructs thus enhancing the scale's content validity. After the first pretest, the questionnaire was significantly revised because the respondents had also suggested some changes with wordings and the inappropriate sequencing of the questionnaire. Then a second pre-testing was conducted on another 25 students. After the second pre-testing, it was found that there were still some ambiguities and inadequacies. The questionnaire was again revised to incorporate suggestions regarding wording and inappropriate sequencing.

After pretesting, the questionnaire was back translated into Arabic for administrating it on the Syrian students. The Arabic version was subject to the same pretest procedure followed in India. Twenty-five Syrian students were recruited to participate in the pretesting. The Arabic questionnaire was refined according to the received feedback and then translated back into English taking help of a Professor from

University of Damascus, Syria. The back translated version of the original questionnaire did not have any meaningful differences which validated the translational equivalence (Brislin, 1986).

4.6 PILOT SURVEY

A pilot survey is a small-scale version of the larger survey; it relates particularly to questionnaire survey but can relate to any type of research procedure. It is always advisable to carry out one or more pilot surveys before starting the main data collection exercise (Malhotra, 2005; Sekaran, 2003). It should draw subjects from the target population and simulate the procedures and protocols that have been designed for data collection. It helps detect weaknesses in design and instrumentation. In fact, pilot survey can be used to test out all aspects of the survey and not just question wording (Ticehurst & Veal, 2000).

The size of the pilot group may range from 25 to 100 subjects (Cooper & Schindler 1998). In the present study, the pilot survey was initially conducted on 35 students from Department of Business Administration, Aligarh Muslim University in Aligarh, India, and 40 students in case of Damascus University, Syria. From the results of reliability tests, validity tests and some basic data analysis, a minor change related to format was made to the questionnaire design to further improve understanding. After the data was collected, reverse scoring was performed for the negatively worded items, data was analysed by using preliminary statistical tools using SPSS, and the respondents' feedback was summarised.

4.7 SAMPLE AND DATA COLLECTION

The sample comprised students from public and private institutions located in India and Syria. The institutions covered included four from India viz. Aligarh Muslim University (AMU), Jamia Hamdard University (JH), Asia Pacific Institute of Management (APIM), and Jamia Millia Islamia (JMI) and five from Syria viz. Damascus University (DU), Damascus Open-learning University (DOU), Al-Kalamoon University (KU), Technological Institute of Business Administration and Marketing (TIBAM) and Higher Institute of Business Administration (HIBA).

Keeping in mind the difficulties and costs of sampling, absence of sample frame and peculiar nature of research spanning two cultures, it was thought proper to adopt convenience sampling for generating data. Although such samples are not strictly representative, they are less likely to create any systematic bias (Douglas &Craig, 1983).

In cross-cultural research, sample equivalence is an important issue, because non-equivalent samples would lead to alternative explanation for any differences in results between two cultures (Douglas & Craig, 1983). Keillor, D'Amico, and Horton (2001) argue that in collecting international data, especially measuring cross-culture differences, random sampling techniques used in a researcher's home market are often either impossible to implement or inappropriate to apply in other cultural settings. Thus, as already explained, this peculiar aspect of present research further necessitated adoption of convenience sampling.

The sample of this study comprised voluntary participants consisting of roughly 600 Indian and 600 Syrian university students. Questionnaire with missing responses were excluded from final analysis. Final sample size was reduced to 399 and 500 for Indian respondents and Syrian respondents, respectively. It is to be noted that according to Wimmer & Dominick (2000), for multivariate studies, a sample size of 300 is considered to be good.

4.8 DATA EDITING AND CODING

Using SPSS software version 15.0, data was edited by checking and adjusting for errors, omissions, legibility and consistency in order to ensure completeness, consistency, and reliability of the data. This was achieved by using "frequency distribution" feature in SPSS. Data was coded by assigning character symbols, and edited before it was entered into SPSS. Each item in the questionnaire had a unique variable name. A coding sheet was used to maintain information about how each variable was coded. It comprised a list of all variables in the questionnaire, the abbreviated variable names that were used in SPSS and the way in which the responses were coded. In relation to data input into SPSS, screening and cleaning of

data before furthering the data analysis stage was necessary to make sure that there were no errors at the stage of keying data. By using descriptive statistics in SPSS such as frequency analysis, the data was screened by checking each variable to see if the score was out of range for this category (checking frequencies), or for continuous variables (checking minimum, maximum, mean and standard deviation). After finding errors, it was necessary to go back to the questionnaires to confirm the data before correcting the error in the data file. Thus, after taking due care, researcher proceeded to the data analysis stage.

4.9 MISSING DATA AND OUTLIERS

Data cleaning procedure was performed before proceeding with the analysis. Outliers were detected by the help of box plots (also called box-whisker diagrams) in SPSS. Moreover, the missing values were replaced with the mean values in the database (Field, 2006).

4.10 DATA ANALYSIS

During initial stages, descriptive statistics such as minimum, maximum, frequency, percent, mean, standard deviation, skewness, kurtosis, Pearson correlation, T-tests and ANOVA was obtained by using SPSS. Data analysis involved testing the reliability (inter-item consistency) and validity of the scales (convergent validity). The second stage comprised testing the proposed research models through Structural Equation Modelling using LISREL 8.5.

Statistical techniques used in this research were categorised into two groups. The first set of techniques was used to explore differences between groups by using T-tests and ANOVA (Pallant, 2005; Sekaran, 2003) and second, Structural Equation Modelling (SEM) was used to estimate interrelated dependence relationships (Hair *et al.* 2006). This technique is helpful in generating a model of relationships among variables (Hayduk, 1987). Before analysing data by using these statistical techniques, it was considered important to test the reliability and validity of the research instrument.

1) Reliability

Reliability is defined as the degree to which measures are free from random error and therefore yield consistent results. However, it is to be noted that unidimensionality is a necessary condition for reliability analysis and construct validation (Anderson & Gerbing, 1991). Hence, in the present study, reliability was assessed only after scale unidimensionality was established.

2) Validity Analysis

Pearson correlation statistic was applied to determine the strength of association between two metric variables (Malhotra, 2005).

3) Principal Component Analysis

Principal Component Analysis (PCA) was performed to check whether the items of each construct load on a single construct. Kaiser-Meyer-Olkin (KMO) and Bartlett's Tests were performed to determine if the data are likely to factor well (Malhotra, 2005). KMO measure quantifies the degree of inter correlations among the variables and hence the appropriateness of factor analysis. Another measure is Bartlett's test of sphericity which measures the presence of correlations among the variables. It provides the statistical probability that the correlation matrix has significant correlations among at least some of variables. Thus, a significant Bartlett's test of sphericity is required.

4) T-test

Independent sample t-tests (Sekaran, 2003) were used to explore the differences between two groups. We deployed t-tests to compare the mean scores of Indian male, Indian female, Syrian male, and Syrian female and find out whether significant differences existed between them.

5) ANOVA

The one-way ANOVA provides us with linearity tests and association measures to help us understand the structure and strength of the relationship between the groups and their means.

6) Structural Equation Model (SEM)

Structural Equation Modelling (SEM) is an advanced multivariate statistical process with which a researcher can hypothesize and test a theoretical model and the associated relationships. It also takes into account measurement errors, and considers both direct and indirect effects of variables on one another. Latent variables are theoretical constructs that unite phenomena under a single term (Bollen, 1989).

SEM analysis has been used to investigate which and how much some of the factors affect the intention for adoption of mobile marketing. By using SEM, the hypothesized model can be tested statistically in a simultaneous analysis of the entire system of variables to determine the extent to which it is consistent with the data. If the goodness of fit is adequate, the model argues for the plausibility of the postulated relations among variables; if it is inadequate, the tenability of such relations is rejected. However, despite the fact that a model is tested in each round, the whole approach is model generation rather than model testing (Byrne, 2001, 2006).

SPSS was used to conduct preliminary analyses of data together with SEM software package LISREL 8.50 which was used to test the proposed models related to mobile advertising and mobile service adoption.

4.11 SUMMARY

This chapter presents the methodology used in this research including information gathering, the instrument development, pre-tests, pilot study, data collection and data analysis process. The research instrument was pre-tested twice, and the pilot study was conducted in India and Syria. In the data analysis section, the statistical techniques used in data analysis were examined for their purpose and benefits of uses in this study. The results of the data analysis via these statistical techniques will be discussed in the next chapter.

CHAPTER 5

DATA ANALYSIS AND INTERPRETATION

5.1 INTRODUCTION

The present chapter has been divided into four parts. The first deals with the preliminary data analysis, the second part presents t-test results, the third covers ANOVA results and the fourth part presents results of modelling for the mobile advertising and mobile services adoption.

The preliminary data analysis presents the results related to (1) the reliability of the instrument based on internal consistency of the measures by testing the Cranach's alpha together with inter-item correlation, (2) the convergent validity of the constructs, (3) the descriptive analysis associated with respondents demographic data, and (4) the descriptive analysis associated with mobile usage profile of respondents.

The purpose of t-tests was to examine whether there exist significant differences between the Indian and Syrian respondents in terms of the constructs of the study. On the other hand, ANOVA was employed to examine whether there exist significant differences between respondents based on gender i.e. among Indian male, Indian female, Syrian male, and Syrian female .

In the last part of this chapter, structural equation modelling (SEM) using LISREL 8.5 has been used to assess the relationship between factors and behaviour intention, which constitutes the core of this research. It attempts to investigate what factors influence behavioural intentions as these factors were expected to play important roles in explaining their behaviour intention.

5.2 PRELIMINARY DATA ANALYSIS

The purpose of preliminary data analysis was to present the results of (1) the reliability of the instrument based on internal consistency of the measures by testing the Cronbach's alpha together with inter-item correlation, (2) the convergent validity of the constructs, (3) the descriptive analysis associated with respondents' demographic data, and (4) the descriptive analysis associated with respondents' mobile profile.

5.2.1 RELIABILITY ANALYSIS

Before scale refinement, the reliability estimates i.e. Cronbach Alpha values of two constructs i.e. personal innovativeness (IN) (Indian sample only), and attitude towards mass media advertising (AM) (Indian and Syrian samples) were less than 0.5. For other scales, the values were between .5 and .84 [Please, see Table 5.1(a) & Table 5.2 (a)]. After scale refinement, internal consistency reliabilities based on Cronbach's alpha values were acceptable for most of the items. A value of Cronbach's alpha of 0.60 or more has been used as a criterion for a reliable scale (Hair *et al.*, 2006) indicating that items in each set were positively correlated to one another (Sekaran, 2003). In other words, items in each set are independent measures of the same concept, and therefore, indicate accuracy in measurement in the main survey.

5.2.2 VALIDITY ANALYSIS

Correlational or convergent analysis is one way of establishing construct validity. Correlational analysis assesses the degree to which two measures of the same concept are correlated. High correlations indicate that the scale is measuring its intended concept (Hair *et al.*, 2006). It is recommended that the inter-item correlation exceed 0.30 (Robinson, Shaver & Wrightsman, 1991). After the refinement of the scale by deleting some items from some constructs, the inter-item correlation values of the indicators in each construct were found satisfactory (higher than 0.30) except few inter-item correlation values. Item-total correlations were satisfactory as well and only some of them were less than 0.30 [please, see Table 5.1(b) and Table 5.2 (b)]. Cohen (1988) suggested that correlation (r) = 0.10 to 0.29 (small correlation), r = 0.30 to 0.49 (medium correlation), and r = 0.50 to 1.0 (large correlation).

In fact, reliability and validity are separate but closely related conditions (Bollen, 1989). More importantly, reliability does not guarantee validity and validity does not guarantee reliability. A measure may be consistent (reliable) but not accurate (valid). On the other hand, a measure may be accurate but not consistent (Holmes-Smith, Cunningham & Coote, 2006).

Thus, the results of correlational analysis also support the results of reliability analysis. So, the retained items of the questionnaire were proved as a reliable and valid measurement tool.

5.2.3 PRINCIPAL COMPONENT ANALYSIS

The various constructs were tested for validity using principal component analysis (PCA) with varimax rotation. PCA was carried out on each scale separately to check if items of a scale load on one single factor. As each item deleted affects all other values, a very cautious approach was taken, deleting only one item per run, which resulted in a higher number of analysis runs. Thus, several items were dropped due to cross loadings and remaining items loaded on a single factor [please see table 5.1 (b) and 5.2 (b)].

Each multi-item scale was factor-analyzed to evaluate dimensionality, and reliability analysis was performed to determine if each item contributed to scale reliability. Besides, correlational analysis was applied to confirm the validity of the construct. We omitted items if they did not load with the majority of the other scale items or if they failed to improve internal consistency. Fifteen items were dropped out from the Indian sample (AA3, AA5, AS3, AS5, UA2, UA3, US1, US4, CA1, CA2, CA5, IN3, AM3, AM4, and AW4); whereas, seventeen items were dropped out from Syrian sample (AA4, AA5, AS4, AS5, IA2, IS2, UA1, UA4, US1, US4, CA1, CA2, CA5, IN3, AM3, AM4, and AW3). A final Principal Component Analysis confirmed the unidimensionality of each scale. (For more details please refer to Appendix C). Mentzer, Flint, and Kent (1999) suggested that a final scale may contain lesser, even one-fourth or one-fifth of the original items. The results of PCA further prove that the constructs possess moderate levels of convergent validity as items within a construct were found to have satisfactory loadings.

Table 5.1 (a) Summary of Reliability and Validity Analysis and Factor Loadings for all Items of Mobile Advertising Scale

Measurement Items	Abb.	Country	Items	Inter-Item Correlation	Item-Total Correlation	Cronbach's Alpha	Factor Loadings
Intention to Adopt M-ads	IA	India	3	.346 – .512	.427 – .549	.675	.518 – .684
		Syria	3	.242 – .647	.278 – .597	.658	.298 – .762
Attitude towards M-ads	AA	India	5	.084 – .432	.233 – .507	.635	.160 – .600
		Syria	5	-.019 – .486	.084 – .395	.517	.402 – .824
Subjective norm for M-ads	SA	India	3	.358 – .463	.448 – .527	.672	.553 – .657
		Syria	3	.426 – .499	.525 – .580	.724	.619 – .685
Perceived Usefulness of M-ads	UA	India	5	.110 – .577	.295 – .497	.628	.426 – .808
		Syria	5	.049 –.406	.170 – .494	.607	.113 – .586
Compatibility with M-ads	CA	India	3	.419 – .627	.478 – .636	.748	.543 – .738
		Syria	3	.593 – .666	.684 – .741	.841	.738 – .794
Personal Innovativeness	IN	India	4	-.079 – .424	-.053 – .419	.452	.015 – .620
		Syria	4	.054 – .423	.192 – .472	.577	.156 – .613
Control of M-ads	C	India	6	.339 – .588	.339 – .588	.743	.257 – .580
		Syria	6	.092 – .490	.092 – .490	.540	.399 – .623
Attitude toward Mass Media ads	AM	India	4	-.008 – .547	.171 – .300	.414	.661 – .775
		Syria	4	-.036 – .567	.109 – .301	.365	.620 – .785
Awareness of Mass Media Ads	AW	India	4	.227 – .627	.325 – .593	.694	.290 – .690
		Syria	4	.253 – .621	.374 – .574	.699	.363 – .657

Table 5.1 (b) Summary of Reliability and Validity Analysis and Factor Loadings for Retained Items of Mobile Advertising Scale

Measurement Items	Abb.	Country	Items	Inter-Item Correlation	Item-Total Correlation	Cronbach's Alpha	Factor Loadings
Intention to Adopt M-ads	IA	India	3	.346 – .398 – .512	.427 – .503 – .549	.675	.518 .639. .684
		Syria	2	.647	.647	.782	.823
Attitude towards M-ads	AA	India	3	.371 – .368 – .413	.439 – .466 – .472	.643	.390 – .616 – .687
		Syria	3	.226– .309 – .486	.315 – .438 – .492	.598	.559 – .603 – .606
Subjective norm for M-ads	SA	India	3	.358 – .408 – .463	.448 – .485 – .527	.537	.553 – .611 – .657
		Syria	3	.426 – .482 – .499	.525 – .535 – .580	.645	.619 – .635 – .685
Perceived Usefulness of M-ads	UA	India	3	.225 – .261 – .348	.295 – .362 – .392	.537	.428 – .546 – .586
		Syria	3	.350 – .385 – .407	.439 – .453 – .480	.645	.561– .583 – .618
Compatibility with M-ads	CA	India	3	.419 – .444 – .627	.478 – .617 – .636	.748	.543 – .718 – .738
		Syria	3	.593 – .656 – .666	.684 – .691– .741	.841	.738 – .746 – .794
Personal Innovativeness	IN	India	3	.364 – .393 – .424	.449 – .470 – .493	.657	.565 – .597 – .626
		Syria	3	.350 – .378 – .423	.432 – .467 – .488	.652	.549 – .596 – .623
Control of M-ads	C	India	3	.392 – .450 – .514	.485 – .535 – .577	.712	.576 – .640 – .690
		Syria	3	.340 – .435 – .409	.443 – .456 – .511	.653	.556 – .586 – .649
Attitude toward Mass Media ads	AM	India	2	.547	.547	.707	.774 – .774
		Syria	2	.567	.567	.723	.783 – .783
Awareness of Mass Media Ads	AW	India	3	.395 – .409 – .627	.446 – .607 – .621	.732	.508 – .722 – .733
		Syria	3	.350 – .334 – .621	.380 – .584 – .595	.699	.433 – .720 – .732

Table 5.2 (a) Summary of Reliability and Validity Analysis and Factor Loadings for all Items of Mobile Services Scale

Measurement Items	Abb.	Country	Items	Inter-Item Correlation	Item-Total Correlation	Cronbach's Alpha	Factor Loadings
Intention to Adopt Mobile Services	IS	India	3	.408 – .526	.473 – .552	.700	.561 – .675
		Syria	3	.261 – .504	.296 – .487	.596	.366 – .668
Attitude towards Mobile Services	AS	India	5	.150 – .544	.361 – .463	.653	.573 – .632
		Syria	5	-.062 – .532	.097 – .507	.573	.416 – .687
Subjective Norm for Mobile Service	SS	India	3	.373 – .480	.441 – .518	.672	.541 – .649
		Syria	3	.350 – .509	.472 – .588	.700	.564 – .710
Perceived Usefulness of Mobile Service	US	India	5	.066 – .610	.246 – .534	.639	.202 – .619
		Syria	5	.093 – .376	.273 – .482	.612	.264 – .546
Compatibility with Mobile Services	CS	India	3	.499 – .646	.568 – .678	.788	.631 – .758
		Syria	3	.521 – .620	.633 – .712	.810	.698 – .779
Personal Innovativeness	IN	India	4	-.079 – .424	-.053 – .419	.452	.015 – .620
		Syria	4	.054 – .423	.192 – .472	.577	.156 – .613

Table 5.2 (b) Summary of Reliability and Validity Analysis and Factor Loadings for Retained Items of Mobile Services Scale

Measurement Items	Abb.	Country	Items	Inter-Item Correlation	Item-Total Correlation	Cronbach's Alpha	Factor Loadings
Intention to Adopt Mobile Services	IS	India	3	.408 – .418 .526	.473 – .547 .552	.700	.561 – .667 – .675
		Syria	2	.504 – .504	.504 – .504	.656	.752 – .752
Attitude towards Mobile Services	AS	India	3	.272 – .287 – .544	.316 – .481 .521	.617	.379 – .680 – .692
		Syria	3	.293 – .430 – .532	.410 – .469 .591	.668	.500 – .615 – .729
Subjective Norm for Mobile Services	SS	India	3	.373 – .386 – .480	.441 .505 – .518	.672	.541 – .638 – .649
		Syria	3	.350 – .463 – .509	.472 – .500 .588	.700	.564 – .611 – .710
Perceived Usefulness of Mobile Services	US	India	3	.306 – .328 – .610	.354 – .582 .592	.686	.404 – .714 – .730
		Syria	3	.246 – .370 – .376	.359 – .375 .470	.582	.507 – .514 – .643
Compatibility with Mobile Services	CS	India	3	.499 – .533 – .646	.568 – .648 .678	.788	.631 – .732 – .758
		Syria	3	.521 – .620 – .622	.633 – .634 .712	.810	.698 – .700 – .779
Personal Innovativeness	IN	India	3	.364 – .393 – .424	.449 – .470 – .493	.657	.565 – .597 – .626
		Syria	3	.350 – .378 – .423	.432 – .467 – .488	.652	.549 – .596 – .623

5.2.4 DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

The demographic profile presented in Table 5.3 shows that majority of the sample comprised respondents who fell in the age band of 20 and 25 years (92.5% and 68.8% for India and Syria, respectively). In general, young users easily accept new technology (Rogers, 1995). Thus, it was expected that such young users shall very likely become active and influential consumers in mobile advertising and services applications. Therefore, understanding the needs and preferences of these future opinion leaders was not only desirable but important. Besides, it was observed that majority of Indian respondents were male (63.7%), while in contrast, female respondents slightly dominated the Syrian sample (51.4%).

Table 5.3: Summary of the Demographic Characteristics of the Sample

	Frequency		*Percent (%)*	
	India	*Syria*	*India*	*Syria*
Gender				
Male	254	243	63.7	48.6
Female	145	257	36.3	51.4
Age				
14-19	5	135	1.3	27
20-25	369	344	92.5	68.8
26-30	23	16	5.8	3.2
31-40	2	5	0.5	1
Education				
Undergraduate	2	486	0.5	97.2
Postgraduate	395	13	95	2.6
PhD	2	1	0.5	0.2

Regarding education, the majority of Indian respondents were pursuing education at Masters Level (95%) whereas the majority of Syrian respondents were at Bachelors Level (97.2 %). It is to be noted that in case of Syria, most of the institutions covered in the survey, offering management and commerce education, had negligible student presence at the Masters Level.

5.2.5 MOBILE USAGE STATISTICS OF RESPONDENTS

The mobile usage statistics of respondents presented in Table 5.4 (b) shows that most mobile connections were of prepaid type in both countries i.e. India (88.2%) and Syria (75.4%). Regarding the monthly mobile bill, it was found that percentage of the respondents, who spent less than Rs. 1,000[1], was 95.3 % for Indian and 69.4 % for Syrian respondents.

The results show that the number of calls made or received is higher for Indian respondents. The percentages of Indian respondents who make more than five calls a day was 57.4 %, whereas it was only 48.4 % for Syrian respondents. Also, the percentages of Indian respondents who received more than five calls a day was 69.2 %, whereas it is only 55.2 % for Syrian respondents.

The number of SMS/MMS sent or received is also higher for the Indian respondents in comparison to those from Syria. Around 52.1% of the Indian respondents sent more than five SMS/MMS a day, whereas this figure was only 11.6% for Syria. Also, the percentages of Indian respondents who received more than five SMS/MMS a day were 67.2%, whereas it was only 13.4% for Syria.

[1] *Note*: $US 1 = Rs 47 = SYP 47 in December, 2009.

Table 5.4: Summary of the Mobile Usage Statistic of the Sample

	Frequency		Percent (%)	
	India	*Syria*	*India*	*Syria*
Expenditure for mobile per month				
Under 300 Rs.	173	141	43.4	28.2
300 Rs. – 999 Rs.	207	206	51.9	41.2
1,000 Rs. – 2000 Rs.	15	83	3.8	16.6
Over 2,000 Rs.	4	70	1.0	14.0
Connection				
Prepaid	352	377	88.2	75.4
Post paid	47	123	11.8	24.6
Calls made per day				
0 – 5	170	258	42.6	51.6
6 – 10	121	132	30.3	26.4
Above 10	108	110	27.1	22.0
Calls received per day				
0 – 5	123	224	30.8	44.8
6 – 10	134	152	33.6	30.4
Above 10	142	124	35.6	24.8
SMS/MMS sent per day				
0 – 5	191	442	47.9	88.4
6 – 10	78	38	19.5	7.6
Above 10	130	20	32.6	4.0
SMS/MMS received per day				
0 – 5	131	433	32.8	86.6
6 – 10	112	40	28.1	8.0
Above 10	156	27	39.1	5.4

Note: US$1 = Rs. 47 = SYP 47 in December, 2009.

5.3 INDEPENDENT SAMPLE T-TEST

T-test was employed on the constructs of the study to differentiate between Indian and Syrian respondents. To analyze the data using independent samples t-test, the SPSS 15 package was used. Before the use of t-tests, Levene's test was applied to check for assumption of homogeneity of variance, if the significance for the Levene's test was 0.05 or below, the "Equal Variances Not Assumed" test was used, otherwise the "Equal Variances Assumed" test results were used (Field, 2006).

The American Psychological Association is now recommending that all psychologists report the effect size in the result of any published work. Field (2006) posits that just because a test statistics is significant doesn't mean that the effect it measures is meaningful or important. The solution to this criticism is to measure the size of the effect that we are testing in a standardized way. Effect sizes are useful because they provide an objective measure of the importance of an effect. So, when we measure the size of an effect (the strength of relationship between variables) it is known as an *effect size*. The suggested formula to calculate the effect size considered is given below:

$$r = \sqrt{\frac{t^2}{t^2 + df}}$$

Cohen (1988) has suggested what constitutes a large or small effect. That is, (r=.10: small effect), (r= .30: medium effect), and (r= .50: large effect).

5.3.1 ATTITUDE TOWARDS MOBILE ADVERTISING (AA)

Both Indian and Syrian respondents exhibited a positive attitude towards mobile advertising. Significant differences were not observed between them (p>.05). The effect size was very small (r = .014) [please, see Table 5.5 (a) and (b)]. Thus, the following hypothesis was **not rejected**.

- $H1_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding *attitude towards mobile ads* (AA).

Table 5.5 (a): Group Statistics of the Attitude towards Mobile Advertising

Nationality	N	Mean	Std. Deviation	Std. Error Mean
Indian	399	2.3567	.69697	.03489
Syrian	500	2.3353	.71920	.03216

Table 5.5 (b): Independent Samples Test Results of the Attitude towards Mobile Advertising

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
	Lower	Upper	Lower	Upper	Lower
Equal variances assumed	.123	.726	.449	897	.653
Equal variances not assumed			.451	864.113	.652

5.3.2 ATTITUDE TOWARDS MOBILE SERVICES (AS)

Significant difference was not observed between Indian (M = 1.81, SE =.02) and Syrian (M = 1.88, SE = .03) respondents as p>.05 for attitude towards mobile services. Both respondents were found to be having a positive attitude towards mobile services. The effect size too was very small (r = .057) [please, see Table 5.6 (a) and (b)]. Thus, the following hypothesis **could not be rejected.**

- $H1_{AS}$ Significant differences do not exist between Indian and Syrian respondents regarding *attitude towards mobile services* (AS).

Table 5.6 (a): Group Statistics of the Attitude towards Mobile Services

Nationality	N	Mean	Std. Deviation	Std. Error Mean
Indian	399	1.8129	.59597	.02984
Syrian	500	1.8887	.69531	.03110

Table 5.6 (b): Independent SamplesTest of the Attitude towards Mobile Services

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	T	df	Sig. (2-tailed)
	Lower	Upper	Lower	Upper	Lower
Equal variances assumed	4.685	.031	-1.729	897	.084
Equal variances not assumed			-1.759	892.409	.079

5.3.3 SUBJECTIVE NORM FOR MOBILE ADVERTISING (SA)

Significant differences did not exist between Indian and Syrian respondents regarding the subjective norms for mobile advertising (p>.05). The effect size was very small (r = .056). For Syrian respondents (M = 3.11, SE = .03), subjective norm had no significant bearing on mobile advertising. Indian respondents also provided similar feedback (M = 3.02, SE = .03) [please, see Table 5.7 (a) and (b)]. Thus, the following hypothesis was **not rejected**.

- $H2_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding *subjective norm for mobile ads* (SA).

Table 5.7 (a): Group Statistics of the Subjective Norm for Mobile Advertising

Nationality	N	Mean	Std. Deviation	Std. Error Mean
Indian	399	3.0234	.79115	.03961
Syrian	500	3.1187	.87069	.03894

Table 5.7 (b): Independent Samples Test of Subjective Norm for Mobile Ads

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
	Lower	Upper	Lower	Upper	Lower
Equal variances assumed	3.706	.055	-1.697	897	.090
Equal variances not assumed			-1.715	881.991	.087

5.3.4 SUBJECTIVE NORM FOR MOBILE SERVICES (SS)

There was no significant difference between Indian and Syrian respondents regarding the subjective norms for mobile services (p>.05). The effect size was very small (r = .012). Interestingly, both Syrian and Indian respondents had similar means and standard errors (M = 2.77, SE = .03). The results show that subjective norm has no significant bearing on mobile services [please, see Table 5.8 (a) and (b)]. Thus, the following hypothesis was **not rejected**.

- $H2_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding *subjective norm for mobile services* (SS).

Table 5.8 (a): Group Statistics of the Subjective Norm for Mobile Services

Nationality	N	Mean	Std. Deviation	Std. Error Mean
Indian	399	2.7728	.77951	.03902
Syrian	500	2.7707	.86307	.03860

Table 5.8 (b): Independent Samples Test of the Subjective Norm for Mobile Services

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
	Lower	Upper	Lower	Upper	Lower
Equal variances assumed	4.274	.039	.038	897	.970
Equal variances not assumed			.038	883.334	.970

5.3.5 PERCEIVED USEFULNESS OF MOBILE ADVERTISING (UA)

Both Indian and Syrian respondents had similar means and standard errors i.e. M = 2.43, SE = .03 and M = 2.44, SE = .03, respectively. Significant differences were not found between Indian and Syrian respondents for perceived usefulness of mobile advertising ($p>.05$). Further, effect size ($r = 0.0056$) too was insignificant [please, see Table 5.9 (a) and (b)]. Thus, the following hypothesis was **not rejected.**

- $H3_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding *perceived usefulness of mobile ads* (UA).

Table 5.9 (a): Group Statistics of Perceived Usefulness of Mobile Advertising

Nationality	N	Mean	Std. Deviation	Std. Error Mean
Indian	399	2.4344	.64112	.03210
Syrian	500	2.4427	.80995	.03622

Table 5.9 (b): Independent Samples Test of Perceived Usefulness of Mobile Advertising

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
	Lower	Upper	Lower	Upper	Lower
Equal variances assumed	23.714	.000	-.166	897	.868
Equal variances not assumed			-.170	896.945	.865

5.3.6 PERCEIVED USEFULNESS OF MOBILE SERVICES (US)

There was no significant difference between Indian and Syrian respondents regarding the perceived usefulness of mobile services (p>.05). The effect size was very small (r =.035). Both Indian and Syrian respondents exhibited similar means and standard errors [i.e. (M=2.49, SE = .36) and (M = 2.44, SE = .36) respectively]. [Please, see Table 5.10 (a) and (b)]. Thus, the following hypothesis was **not rejected.**

- $H3_{AS}$ Significant differences do not exist between Indian and Syrian respondents regarding *perceived usefulness of mobile services* (US).

Table 5.10 (a): Group Statistics of the Perceived Usefulness of Mobile Services

Nationality	N	Mean	Std. Deviation	Std. Error Mean
Indian	399	2.4966	.72989	.03659
Syrian	500	2.4427	.80995	.03622

Table 5.10 (b): Independent Samples Test of the Perceived Usefulness of Mobile Services

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
	Lower	Upper	Lower	Upper	Lower
Equal variances assumed	4.051	.044	1.036	896	.300
Equal variances not assumed			1.049	882.294	.295

5.3.7 COMPATIBILITY WITH MOBILE ADVERTISING (CA)

Significant differences were observed between Indian and Syrian respondents regarding the compatibility with mobile advertising (p<.05). Although both the groups showed low compatibility, Indian respondents (M = 2.70, SE = .04) showed a slightly higher compatibility than Syrian respondents (M = 2.88, SE = .03). However, it represented a small sized effect (r = .11) [Please, see Table 5.11(a) and (b)]. Thus, the following hypothesis was **rejected.**

- $H4_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding *compatibility with mobile ads* (CA).

Table 5.11 (a): Group Statistics of Compatibility with Mobile Advertising

Nationality	N	Mean	Std. Deviation	Std. Error Mean
Indian	399	2.8872	.79102	.03960
Syrian	500	2.7013	.89912	.04021

Table 5.11 (b): Independent Samples Test of Compatibility with Mobile Advertising

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
	Lower	Upper	Lower	Upper	Lower
Equal variances assumed	4.949	.026	3.247	897	.001
Equal variances not assumed			3.294	888.475	.001

5.3.8 COMPATIBILITY WITH MOBILE SERVICES (CS)

Significant differences were observed between Indian and Syrian respondents regarding the compatibility with mobile services ($p<.05$). The size effect was small ($r = .18$). Thus, Syrian respondents ($M = 2.256$, $SE = .364$) exhibited higher level of compatibility with mobile services than Indian respondents ($M = 2.548$, $SE = .039$) [Please, see Table 5.12 (a) and (b)]. Thus, the following hypothesis was **rejected**.

- $H4_{AS}$ Significant differences do not exist between Indian and Syrian respondents regarding *compatibility with mobile services* (CS).

Table 5.12 (a): Group Statistics of Compatibility with Mobile Services

Nationality	N	Mean	Std. Deviation	Std. Error Mean
Indian	399	2.5489	.78284	.03919
Syrian	500	2.2560	.81391	.03640

Table 5.12 (b): Independent Samples Test of Compatibility with Mobile Services

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
	Lower	Upper	Lower	Upper	Lower
Equal variances assumed	1.071	.301	5.452	897	.000
Equal variances not assumed			5.476	866.520	.000

5.3.9 PERSONAL INNOVATIVENESS (IN)

Significant differences were not observed between Indian and Syrian respondents regarding personal innovativeness (p>.05). The effect size was very small (r = .052). Both of them showed moderate levels of personal innovativeness i.e. M=2.38 and M=2.46 for India and Syria, respectively [Please, see Table 5.13 (a) and (b)]. Thus, the following hypotheses were **not rejected**.

- ***$H5_{AA}$ / $H5_{AS}$*** Significant differences do not exist between Indian and Syrian respondents regarding *personal innovativeness* (IN).

Table 5.13 (a): Group Statistics for Personal Innovativeness

Nationality	N	Mean	Std. Deviation	Std. Error Mean
Indian	399	2.4645	.68753	.03442
Syrian	500	2.3887	.74359	.03325

Table 5.13 (b): Independent Samples Test of Personal Innovativeness

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
	Lower	Upper	Lower	Upper	Lower
Equal variances assumed	1.358	.244	1.570	897	.117
Equal variances not assumed			1.584	877.782	.113

5.3.10 CONTROL OF MOBILE ADVERTISING (C)

Significant differences did not exist between Indian and Syrian respondents regarding the control of mobile advertising (p>.05). The effect size was very small (r = .063). Both the groups exhibited concern about controlling mobile advertising. However, Indian respondents (M = 1.794, SE = .318) were slightly more concerned about the control of mobile advertising than Syrian respondents (M = 1.883, SE = .0339) [Please, see Table 5.14 (a) and (b)]. Thus, the following hypothesis was **not rejected.**

- ***$H6_{AA}$*** Significant differences do not exist between Indian and Syrian respondents regarding *control of mobile ads* (C).

Table 5.14 (a): Group Statistics of the Control of Mobile Advertising

Nationality	N	Mean	Std. Deviation	Std. Error Mean
Indian	399	1.7947	.63571	.03183
Syrian	500	1.8831	.75836	.03395

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Table 5.14 (b): Independent Samples Test of the Control of Mobile Advertising

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
	Lower	Upper	Lower	Upper	Lower
Equal variances assumed	7.497	.006	-1.864	896	.063
Equal variances not assumed			-1.901	893.991	.058

5.3.11 ATTITUDES TOWARDS MASS MEDIA ADVERTISING (AM)

Significant differences did not exist between Indian and Syrian respondents regarding their attitudes towards mass media advertising (p>.05). The effect size was very small (r = .025). Both of them show neutral attitude towards mass media advertising i.e. M = 2.53, SE = .041 and M = 2.49, S E = .038 for Indian and Syrian respondents, respectively [Please, see Table 5.15 (a) and (b)]. Thus, the following hypothesis was **not rejected.**

- $H7_{AA}$ Significant differences do not exist between Indian and Syrian respondents regarding *attitude towards mass media ads* (AM).

Table 5.15 (a): Group Statistics of the Attitude towards Mass Media Advertising

Nationality	N	Mean	Std. Deviation	Std. Error Mean
Indian	399	2.5389	.83402	.04181
Syrian	500	2.4960	.85290	.03814

Table 5.15 (b): Independent Samples Test of the Attitude towards Mass Media Advertising

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
	Lower	Upper	Lower	Upper	Lower
Equal variances assumed	.070	.791	.757	896	.449
Equal variances not assumed			.759	859.316	.448

5.3.12 AWARENESS OF MASS MEDIA ADVERTISING (AW)

The Indian and Syrian samples exhibited significant differences for awareness of mass media advertising ($p<.05$). However, it represented a medium sized effect ($r = .34$). Indian respondents ($M = 2.40$, $SE = .0384$) showed a higher level of mass media advertising awareness than respondents from Syria ($M = 3.10$, $SE = .037$) [Please, see Table 5.16 (a) and (b)]. Thus, the following hypothesis was **rejected.**

- ***$H8_{AA}$*** Significant differences do not exist between Indian and Syrian respondents regarding *awareness of mass media ads* (AW).

Table 5.16 (a): Group Statistics of Awareness of Mass Media Advertising

Nationality	N	Mean	Std. Deviation	Std. Error Mean
Indian	399	2.4002	.76676	.03839
Syrian	500	3.1033	.83095	.03716

Table 5.16 (b): Independent Samples Test of the Awareness of Mass Media Advertising

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
	Lower	Upper	Lower	Upper	Lower
Equal variances assumed	1.714	.191	-13.043	897	.000
Equal variances not assumed			-13.161	878.292	.000

5.3.13 INTENTION TO ADOPT MOBILE ADVERTISING (IA)

Syrian respondents ($M = 2.50$, $SE = .04$) showed a stronger intention to adopt mobile advertising than Indian respondents ($M = 2.73$, $SE = .03$) and the differences were significant ($p<.05$). However, it represents a small sized effect ($r = .136$) [Please, see Table 5.17 (a) and (b)]. Thus, the following Hypothesis was **rejected**.

- ***$H9_{AA}$*** Significant differences do not exist between Indian and Syrian respondents regarding *intention to adopt mobile ads* (IA).

Table 5.17 (a): Group Statistics of the Intention to Adopt Mobile Advertising

Nationality	N	Mean	Std. Deviation	Std. Error Mean
Indian	399	2.7318	.72883	.03649
Syrian	500	2.5010	.95516	.04272

Table 5.17 (b): Independent Samples Test for Intention to Adopt Mobile Advertising

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
	Lower	Upper	Lower	Upper	Lower
Equal variances assumed	13.309	.000	3.989	897	.000
Equal variances not assumed			4.109	895.267	.000

5.3.14 INTENTION TO ADOPT MOBILE SERVICES (IS)

Syrian respondents (M = 1.95, SE = .03) showed a stronger intention to adopt mobile services than Indian respondents (M = 2.17, SE = 03) and the differences between them were significant ($p<.05$). However, it represented a small sized effect (r = .144) [Please, see Table 5.18 (a) and (b)]. Thus the following Hypothesis was **rejected.**

- **$H9_{AS}$** Significant differences do not exist between Indian and Syrian respondents regarding *intention to adopt mobile services* (IS).

Table 5.18 (a): Group Statistics of the Intention to Adopt Mobile Services

Nationality	N	Mean	Std. Deviation	Std. Error Mean
Indian	399	2.1721	.72555	.03632
Syrian	500	1.9500	.78085	.03492

Table 5.18 (b): Independent Samples Test of the Intention to Adopt Mobile Services

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	df	Sig. (2-tailed)
	Lower	Upper	Lower	Upper	Lower
Equal variances assumed	.778	.378	4.372	897	.000
Equal variances not assumed			4.408	876.502	.000

5.4 ONE-WAY ANOVA

To determine whether the Indian females, Indian males, Syrian females and Syrian males differ significantly from one another, we applied the one-way-Analysis of Variance (ANOVA).

The SPSS 15 statistical package was used to analyze the data using ANOVA module. In addition post-hoc analyses for multiple comparisons were carried out by using Gabriel's procedure as there was a slight difference in the sample sizes (Field, 2006). All statistical analyses were tested at (.05) significance level.

5.4.1 ATTITUDE TOWARDS MOBILE ADVERTISING (AA)

The attitude towards advertising scores were calculated for Indian male (Mean=2.41, *SD* = .69), Indian female (Mean = 2.26, *SD* = .69), Syrian male (Mean = 2.33, *SD* = .78), and Syrian female (Mean = 2.34, *SD* = .66) respondents. The ANOVA results (Table 5.19) indicated that significant differences did not exist between them, F (3, 893) =1.415, P > .05. Thus, the following hypothesis was **not rejected.**

- $H1_{BA}$ Significant differences do not exist between respondents based on gender regarding *attitude towards mobile ads* (AA).

Table 5.19: One-Way ANOVA for the Gender and the Attitude towards Mobile Ads

	Gender	*N*	*Mean*	*SD*	*Variance*	*SS*	*df*	*MA*	*F*	*P*
India	Male	254	2.41	.69	Between Groups	2.12	3	.708	1.41	.237
	Female	144	2.26	.69						
Syria	Male	243	2.33	.78	Within Groups	446.7	893	.500		
	Female	256	2.34	.66						
Total		897	2.34	.71	Total	448.8	896			

5.4.2 ATTITUDE TOWARDS MOBILE SERVICES (AS)

The scores of attitude towards mobile services were calculated for Indian male (Mean= 1.761, *SD* = .57), Indian female (Mean = 1.898, *SD* = .31), Syrian male (Mean = 1.88, *SD* = .72), and Syrian female (Mean = 1.895, *SD* = .68)

respondents. The ANOVA results (Table 5.20) indicated no significant differences between them, F (3, 893) =2.42, P > .05. Thus, the following hypothesis was **not rejected**.

- ***H1$_{BS}$*** Significant differences do not exist between respondents based on gender regarding *attitude towards mobile services* (AS).

Table 5.20: One-Way ANOVA for Gender and the Attitude towards Mobile Services

	Gender	*N*	*Mean*	*SD*	*Variance*	*SS*	*df*	*MA*	*F*	*P*
India	Male	254	1.76	.57	Between Groups	3.09	3	1.03	2.42	.065
	Female	144	1.89	.31						
Syria	Male	243	1.88	.72	Within Groups	380.1	893	.42		
	Female	256	1.89	.67						
Total		897	1.85	.65	Total	383.2	896			

5.4.3 SUBJECTIVE NORM FOR MOBILE ADVERTISING (SA)

The scores of subjective norm for mobile advertising were calculated for Indian male (Mean= 2.095, SD = .72), Indian female (Mean = 2.310, SD = .72), Syrian male (Mean = 1.883, SD = .77), and Syrian female (Mean = 2.012, SD = .79) respondents. The ANOVA results (Table 5.21) indicated no significant differences between them, F (3, 893) = 1.949, P >.05. Thus, the following hypothesis was **not rejected**.

- ***H2$_{BA}$*** Significant differences do not exist between respondents based on gender regarding *subjective norm for mobile ads* (SA).

Table 5.21: One-Way ANOVA for Gender and Subjective Norm for Mobile Ads

	Gender	*N*	*Mean*	*SD*	*Variance*	*SS*	*df*	*MA*	*F*	*P*
India	Male	254	3.01	.78	Between Groups	4.08	3	1.36	1.95	.12
	Female	144	3.04	.80						
Syria	Male	243	3.05	.88	Within Groups	623.93	893	.699		
	Female	256	3.18	.85						
Total		897	3.07	.84	Total	628.02	896			

5.4.4 SUBJECTIVE NORM FOR MOBILE SERVICES (SS)

The scores of subjective norm for mobile services were calculated for Indian male (Mean= 2.721, SD = .75), Indian female (Mean = 2.870, SD = .83), Syrian male (Mean = 2.750, SD = .87), and Syrian female (Mean = 2.787, SD = .86) respondents. The ANOVA results (Table 5.22) indicated no significant differences between them, F (3, 893) = 1.091, P > .05. Thus, the following hypothesis was **not rejected**.

- $H2_{BS}$ Significant differences do not exist between respondents based on gender regarding *subjective norm for mobile services* (SS).

Table 5.22: One-Way ANOVA for Gender and Subjective Norm for Mobile Services

	Gender	*N*	*Mean*	*SD*	*Variance*	*SS*	*df*	*MA*	*F*	*P*
India	Male	254	2.72	.74	Between Groups	2.235	3	.745	1.09	.352
	Female	144	2.87	.83						
Syria	Male	243	2.75	.87	Within Groups	609.9	893	.683		
	Female	256	2.78	.85						
Total		897	2.77	.82	Total	612.1	896			

5.4.5 PERCEIVED USEFULNESS OF MOBILE ADVERTISING (UA)

The scores of perceived usefulness of ads were calculated for Indian male (Mean= 2.451, SD = .66), Indian female (Mean = 2.403, SD = .61), Syrian male (Mean = 2.432, SD = .79), Syrian female (Mean = 2.449, SD = .83) respondents. The ANOVA results (Table 5.23) indicated no significant differences between them, F (3, 893) = .161, P > .05. Thus, the following hypothesis was **not rejected**.

- $H3_{BA}$ Significant differences do not exist between respondents based on gender regarding *perceived usefulness of mobile ads* (UA).

Table 5.23: One-Way ANOVA for Gender and Perceived Usefulness of Mobile Ads

	Gender	*N*	*Mean*	*SD*	*Variance*	*SS*	*df*	*MA*	*F*	*P*
India	Male	254	2.45	.66	Between Groups	.265	3	.088	.161	.922
	Female	144	2.40	.61						
Syria	Male	243	2.43	.79	Within Groups	489.8	893	.55		
	Female	256	2.45	.82						
Total		897	2.44	.74	Total	490.1	896			

5.4.6 PERCEIVED USEFULNESS OF MOBILE SERVICES (US)

The scores of perceived usefulness of mobile services were calculated for Indian male (Mean= 2.514, SD = .73), Indian female (Mean = 2.465, SD = .72), Syrian male (Mean = 2.432, SD = .79), and Syrian female (Mean = 2.449, SD = .83) respondents. The ANOVA results (Table 5.24) indicated no significant differences between them, F (3, 892) = .514, P > .05. Thus, the following hypothesis was **not rejected**.

- $H4_{BS}$ Significant differences do not exist between respondents based on gender regarding *perceived usefulness of mobile services* (US).

Table 5.24: One-Way ANOVA for Gender and Perceived Usefulness of Mobile Services

	Gender	*N*	*Mean*	*SD*	*Variance*	*SS*	*df*	*MA*	*F*	*P*
India	Male	253	2.51	.73	Between Groups	.93	3	.31	.514	.673
	Female	144	2.46	.72						
Syria	Male	243	2.43	.79	Within Groups	537.77	892	.60		
	Female	256	2.45	.82						
Total		897	2.46	.77	Total	538.70	895			

5.4.7 COMPATIBILITY WITH MOBILE ADVERTISING (CA)

The scores of compatibility with advertising were calculated for Indian male (Mean= 2.934, SD = .81), Indian female (Mean = 2.808, SD = .75), Syrian male (Mean = 2.696, SD = .91), and Syrian female (Mean = 2.706, SD = .89) respondents. The ANOVA results [Table 5.25 (a)] indicated significant difference between them, F (3, 893) = 4.255, P <.05.

Table 5.25 (a): One-Way ANOVA for Gender and Compatibility with Mobile Ads

	Gender	*N*	*Mean*	*SD*	*Variance*	*SS*	*df*	*MA*	*F*	*P*
India	Male	254	2.93	.81	Between Groups	9.30	3	3.10	4.25	.005
	Female	144	2.81	.75						
Syria	Male	243	2.69	.91	Within Groups	650.5	893	.73		
	Female	256	2.70	.89						
Total		897	2.78	.86	Total	659.8	896			

In addition, the Gabriel's post-hoc analysis [Table 5.25 (b)] revealed that Indian male respondents exhibited significantly lower compatibility levels with mobile advertising than Syrian male and female respondents. Post-hoc analysis also revealed that there were no significant differences in compatibility levels between Indian male and female respondents, between Indian female and Syrian female respondents, and between Indian female and Syrian male respondents. Thus, the following hypothesis was **rejected.**

- ***$H4_{BA}$*** Significant differences do not exist between respondents based on gender regarding *compatibility with mobile ads* (CA).

Table 5.25 (b): Gabriel Post Hoc Test for Gender and Compatibility with Mobile Ads

Multiple Comparisons		**Std. Error**	**Sig.**
Indian Male	Indian Female	.0890	.626
	Syrian Male	.0766	.011
	Syrian female	.0756	.015
Indian Female	Syrian Male	.0898	.751
	Syrian Female	.0889	.816
Syrian Male	Syrian Female	.0897	.751

5.4.8 COMPATIBILITY WITH MOBILE SERVICES (CS)

The scores of compatibility with mobile services were calculated for Indian male (Mean= 2.543, SD = .79), Indian female (Mean = 2.563, SD = .78), Syrian male (Mean = 2.273, SD = .85), and Syrian female (Mean = 2.240, SD = .78) respondents. The ANOVA results [Table 5.26 (a)] indicated significant differences among them, F (3, 893) = 10.042, P <.05.

Table 5.26 (a): One-Way ANOVA for Gender and Compatibility with Mobile Services

	Gender	*N*	*Mean*	*SD*	*Variance*	*SS*	*df*	*MA*	*F*	*P*
India	Male	254	2.54	.7917	Between Groups	19.36	3	6.45	10.04	.000
	Female	144	2.56	.7710						
Syria	Male	243	2.27	.8550	Within Groups	574	893	.64		
	Female	256	2.24	.7759						
Total		897	2.38	.8138	Total	593.3	896			

Also, the Gabriel's post-hoc analysis [Table 5.26 (b)] revealed that Syrian male and Syrian female respondents exhibited significantly higher compatibility levels with mobile services than Indian male and Indian female respondents. However, post-hoc analysis indicated that there were no significant differences between Indian male and Indian female respondents, and between Syrian male and Syrian female respondents. Thus, the following hypothesis was **rejected.**

- ***H5$_{BS}$*** Significant differences do not exist between respondents based on gender regarding *compatibility with mobile services* (CS).

Table 5.26 (b): Gabriel Post Hoc Test for Gender and Compatibility with Mobile Services

Multiple Comparisons		**Std. Error**	**Sig.**
Indian Male	Indian Female	.0836	1.000
	Syrian Male	.0719	.001
	Syrian female	.0710	.000
Indian Female	Syrian Male	.0843	.003
	Syrian Female	.0835	.001
Syrian Male	Syrian Female	.0718	.998

5.4.9 PERSONAL INNOVATIVENESS (IN)

The scores of the personal innovativeness were calculated for Indian male (Mean= 2.375, SD = .68), Indian female (Mean = 2.618, SD = .67), Syrian male (Mean = 2.365, SD = .78), and Syrian female (Mean = 2.410, SD = .71) respondents. The ANOVA results [Table 5.27 (a)] indicated significant difference among them, F (3, 893) = 4.495, P <.05.

Table 5.27 (a): One-Way ANOVA for Gender and Personal Innovativeness

	Gender	*N*	*Mean*	*SD*	*Variance*	*SS*	*df*	*MA*	*F*	*P*
India	Male	254	2.37	.68	Between Groups	6.92	3	2.3	4.5	.004
	Female	144	2.62	.67						
Syria	Male	243	2.36	.78	Within Groups	458	893	.51		
	Female	256	2.41	.71						
Total		897	3.69	1.33	Total	465	896			

Thus, the Gabriel's post-hoc analysis [Table 5.27 (b)] was conducted to investigate the differences between the means. It revealed that Indian female respondents exhibited significantly lower levels of innovativeness than Indian male, Syrian male and Syrian female respondents. However, post-hoc analysis indicated that there are no significant differences between Indian male and Syrian male respondents, between Indian male and Syrian female respondents, and between Syrian male and Syrian female respondents. Thus, the following hypothesis was **rejected**.

- $H5_{BS}$ & $H5_{BS}$ Significant differences do not exist between respondents based on gender regarding *personal innovativeness* (IN).

Table 5.27 (b): Gabriel Post Hoc Test for Gender and Personal Innovativeness

Multiple Comparisons		Std. Error	Sig.
Indian Male	Indian Female	.0747	.006
	Syrian Male	.0643	1.000
	Syrian female	.0634	.995
Indian Female	Syrian Male	.0753	.004
	Syrian Female	.0746	.030
Syrian Male	Syrian Female	.0641	.980

5.4.10 CONTROL OF MOBILE ADVERTISING (C)

The scores for control were calculated for Indian male (Mean= 1.7667, SD=.63), Indian female (Mean = 1.8380, SD = .64), Syrian male (Mean = 1.8176, SD=.76), and Syrian female (Mean = 1.9477, SD = .76) respondents. The ANOVA results [Table 5.28 (a)] indicated significant difference between them, F (3, 892) = 2.974, P <.05.

Table 5.28 (a): One-Way ANOVA for Gender and Control of Mobile Ads

	Gender	*N*	*Mean*	*SD*	*Variance*	*SS*	*df*	*MA*	*F*	*P*
India	Male	254	1.76	.63	Between Groups	4.44	3	1.48	2.97	.03
	Female	144	1.84	.63						
Syria	Male	243	1.81	.75	Within Groups	443.6	892	.49		
	Female	255	1.95	.75						
Total		897	1.84	.71	Total	448	895			

Moreover, the Gabriel's post-hoc analysis [Table 5.28 (b)] showed that Indian male students exhibited significantly more desire to have control on mobile advertising and services than Syrian female respondents. However, post-hoc analysis indicated that significant differences did not exist between Indian male and Indian female, Syrian male and Syrian female, Indian male and Syrian female, and between Syrian male and Indian female respondents. Thus, the following hypothesis was **rejected.**

- ***H6$_{BA}$*** Significant differences do not exist between respondents based on gender regarding *control of mobile ads* (C).

Table 5.28 (b): Gabriel Post Hoc Test for Gender and Control of Mobile Ads

Multiple Comparisons		**Std. Error**	**Sig.**
Indian Male	Indian Female	.0736	.907
	Syrian Male	.0633	.962
	Syrian female	.0625	.023
Indian Female	Syrian Male	.0742	1.00
	Syrian Female	.0735	.571
Syrian Male	Syrian Female	.0632	.216

5.4.11 ATTITUDE TOWARDS MASS MEDIA ADVERTISING (AM)

The scores of attitude towards mass media advertising were calculated for Indian male (Mean= 2.549, SD = .86), Indian female (Mean = 2.524, SD = .80), Syrian male (Mean = 2.496, SD = .82), and Syrian female (Mean = 2.490, SD=.88) respondents. The ANOVA results (Table 5.29) indicated no significant difference between them, F (3, 892) = .260, P >.05. Thus, the following hypothesis was **not rejected**.

- $H7_{BA}$ Significant differences do not exist between respondents based on gender regarding *attitude towards mass media ads* (AM).

Table 5.29: One-Way ANOVA for Gender and Attitude towards Mass Media Ads

	Gender	*N*	*Mean*	*SD*	*Variance*	*SS*	*df*	*MA*	*F*	*P*
India	Male	253	2.55	.85	Between Groups	.55	3	.18	.26	.85
	Female	144	2.52	.80						
Syria	Male	243	2.49	.82	Within Groups	636.5	892	.71		
	Female	256	2.49	.88						
Total		897	2.51	.84	Total	637.1	895			

5.4.12 AWARENESS OF MASS MEDIA ADVERTISING (AW)

The scores for advertising awareness were calculated for Indian male (Mean=2.396, SD = .78), Indian female (Mean = 2.407, SD = .75), Syrian male (Mean = 3.070, SD = .88), and Syrian female (Mean = 3.138, SD = .78) respondents. The ANOVA results [Table 5.30 (a)] indicated significant differences between them, F (3, 893) = 56.965, P <.05.

Table 5.30 (a): One-Way ANOVA for Gender and Mass Media Ads Awareness

	Gender	*N*	*Mean*	*SD*	*Variance*	*SS*	*df*	*MA*	*F*	*P*
India	Male	254	2.39	.77	Between Groups	110.5	3	36.83	56.96	.000
	Female	144	2.40	.74						
Syria	Male	243	3.07	.88	Within Groups	577.3	893	.65		
	Female	256	3.13	.78						
Total		897	2.79	.87	Total	687.8	896			

In addition, the Gabriel's post-hoc analysis [Table 5.30 (b)] revealed that Indian male and Indian female respondents exhibited significantly higher levels of mass media advertising awareness than Syrian male and female respondents. However, it indicated that there were no significant differences between Indian males and female respondents and between Syrian male and female respondents. Thus, the following hypothesis was **rejected**.

- $H8_{BA}$ Significant differences do not exist between respondents based on gender regarding *awareness of mass media ads* (AW).

Table 5.30 (b): Gabriel Post Hoc Test for Gender and Mass Media Ads Awareness

Multiple Comparisons		Std. Error	Sig.
Indian Male	Indian Female	.0839	1.000
	Syrian Male	.0722	.000
	Syrian female	.0712	.000
Indian Female	Syrian Male	.0846	.000
	Syrian Female	.0838	.000
Syrian Male	Syrian Female	.0720	.921

5.4.13 INTENTION TO ADOPT MOBILE ADVERTISING (IA)

The scores for intention to adopt mobile advertising were calculated for Indian male (Mean= 2.742, SD = .76), Indian female (Mean = 2.715, SD = .68), Syrian male (Mean = 2.407, SD = .96), and Syrian female (Mean = 2.588, SD = .94) respondents. The ANOVA results [Table 5.31 (a)] indicated significant differences between them, F (3, 893) = 7.209, P < .05.

Table 5.31 (a): One-Way ANOVA for Gender and Intention to Adopt Mobile Ads

	Gender	*N*	*Mean*	*SD*	*Variance*	*SS*	*df*	*MA*	*F*	*P*
India	Male	254	2.74	.76	Between Groups	16	3	5.34	7.21	.000
	Female	144	2.71	.68						
Syria	Male	243	2.41	.96	Within Groups	662.3	893	.74		
	Female	256	2.59	.94						
Total		897	2.60	.87	Total	678.3	896			

In addition, Gabriel's post-hoc analysis was performed to investigate the nature of differences between the means [see Table 5.31 (b)]. The post-hoc analysis revealed that Syrian male respondents exhibited significantly higher levels of intention to adopt mobile advertising than Indian male and female respondents. However, post-hoc analysis indicated that intention levels of Syrian males and Syrian females did not differ significantly. Also, according to post-hoc analysis, intention levels of Syrian females, Indian males and Indian females did not differ significantly. Thus, the following hypothesis was **rejected**.

- $H9_{BA}$ Significant differences do not exist between respondents based on gender regarding *intention to adopt mobile ads* (IA).

Table 5.31 (b): Gabriel Post Hoc Test for Gender and the Intention to Adopt Mobile Ads

Multiple Comparisons		Std. Error	Sig.
Indian Male	Indian Female	.0898	1.000
	Syrian Male	.0773	.000
	Syrian female	.0763	.238
Indian Female	Syrian Male	.0906	.004
	Syrian Female	.0897	.627
Syrian Male	Syrian Female	.0771	.111

5.4.14 INTENTION TO ADOPT MOBILE SERVICES (IS)

The scores for intention to adopt mobile services were calculated for Indian male (Mean= 2.095, SD = .72), Indian female (Mean = 2.310, SD = .72), Syrian male (Mean = 1.883, SD = .77), and Syrian female (Mean = 2.012, SD = .79) respondents. The ANOVA results [Table 5.32 (a)] indicated significant differences between them, $F(3, 893) = 10.228$, $P < .05$.

Table 5.32 (a): One-Way ANOVA for Gender and Intention to Adopt Mobile Services

	Gender	*N*	*Mean*	*SD*	*Variance*	*SS*	*df*	*MA*	*F*	*P*
India	Male	254	2.09	.72	Between Groups	17.42	3	5.81	10.23	.000
	Female	144	2.31	.71						
Syria	Male	243	1.88	.77	Within Groups	507.1	893	.568		
	Female	256	2.01	.78						
Total		897	2.05	.76	Total	524.5	896			

Also, to investigate the nature of differences among the means, Gabriel's post-hoc analysis was performed [see Table 5.32 (b)]. It revealed that Indian female respondents exhibited significantly lower levels of intention to adopt mobile services than Indian male, Syrian male and Syrian female respondents. Also, it revealed that Indian male respondents had significantly lower levels of intention to adopt mobile services than Syrian male respondents. However, post-hoc analysis indicated that intention levels of Indian male and Indian female respondents did not differ significantly. Also, according to post-hoc analysis, the intention levels of Indian male and Syrian female respondents did not differ significantly. Thus, the following hypothesis was **rejected.**

- ***$H5_{BS}$*** Significant differences do not exist between respondents based on gender regarding *intention to adopt mobile services* (IS).

Table 5.32 (b): ANOVA Post Hoc Test for Gender and Intention to Adopt Mobile Services

Multiple Comparisons		**Std. Error**	**Sig.**
Indian Male	Indian Female	.0786	.034
	Syrian Male	.0676	.011
	Syrian female	.0667	.766
Indian Female	Syrian Male	.0793	.000
	Syrian Female	.0785	.001
Syrian Male	Syrian Female	.0675	.293

5.5 MOBILE ADVERTISING AND SERVICES MODELLING

Several researchers have suggested that causal relationships of factors and behavioural intention can best be analysed using SEM (Hair *et al.*, 2006; Schumacker & Lomax, 1996). Thus, SEM was employed to analyse the data and generate the models. SEM technique provides more realistic models than standard multivariate statistics or multiple regression models alone. By using LISREL 8.5, as has been done for the present study, users can specify, estimate, assess, and present the model in an intuitive path diagram to show hypothesised relationships among variables.

An attempt has been made to investigate, separately for each country i.e. India and Syria, as to which factors influence behavioural intentions. These factors were expected to play important roles in explaining behaviour intention. The proposed research model was tested with careful considerations associated with the goodness of fit of the model to the data. Consequently, a specific model of mobile adoption, that best fits the available data, was expected to be generated.

5.5.1 CONSTRUCTS CONSIDERED IN THE RESEARCH MODELS

The proposed mobile advertising research model comprised nine constructs; eight exogenous latent constructs (AA, SA, UA, CA, C, IN, AM, & AW) and one endogenous latent construct (IA) (Please see Table 5.33 and Figures 5.1 & 5.2); whereas the proposed mobile services research model comprised five latent constructs (AS, SS, US, CS, & IN) and one endogenous latent construct (IS) (Please see Table 5.34 and Figures 5.3 & 5.4). An exogenous construct is a latent, multi-item equivalent to independent variables; it is not affected by any other construct in the model. Endogenous construct is latent, multi-item equivalents to dependent variables; it is a construct that is affected by other constructs in the model (Hair *et al.*, 2006; Sharma, 1996). A latent construct cannot be measured directly but can be measured by one or more variables. These measured variables are used as the indicators of latent constructs (Hair *et al.*, 2006). In this study, latent construct were identified based on extant

literature. Each construct comprised at least two items and not more than six items.

This research analysed the data based on the two-step approach as recommended by Anderson and Gerbing (1988). *Firstly*, the measurement models depicted in Figures 5.1, 5.2, 5.3 and 5.4 were evaluated using SPSS 15 (already discussed in this chapter in section 5.1.1- 5.1.3) to ensure the unidimensionality, reliability and validity of each construct. The *second* step involved the assessment of the structural model using LISREL 8.5 which shows the relationships between the constructs. By using this two-step approach, the typical problem of not being able to localise the source of poor model fit associated with the single-step approach was overcome (Kline, 2005). The single-step approach, which was not followed, involves assessing measurement and structural models simultaneously (Singh & Smith, 2001).

Table 5.33: Constructs of Mobile Advertising Research Model

Construct	*Description of the Construct*	*No. of Items*	*Items*	
			India	*Syria*
IA	Intention to Adopt Mobile Ads **	3, 2	IA1 IA2 IA3	IA1 IA3
AA	Attitude towards Mobile Ads *	3, 3	AA1 AA2 AA4	AA1 AA2 AA3
SA	Subjective Norms *	3, 3	SA1 SA2 SA3	SA1 SA2 SA3
UA	Usefulness of Ads *	3, 3	UA1 UA4 UA5	UA2 UA3 UA5
CA	Compatibility with Ads *	3, 3	CA1 CA2 CA3	CA1 CA2 CA3
C	Controlling Mobile Ads *	3, 3	C3 C4 C6	C3 C4 C6
IN	Personal Innovativeness *	3, 3	IN1 IN2 IN4	IN1 IN2 IN4
AM	Attitude towards Mass Media Ads*	2, 2	AM1 AM2	AM1 AM2
AW	Awareness of Mass Media Ads *	3, 3	AW1 AW2 AW3	AW1 AW2 AW4

** = Endogenous Latent Construct

* = Exogenous Latent Construct

Figure 5.1: Conceptual Model of Mobile Advertising Adoption for India

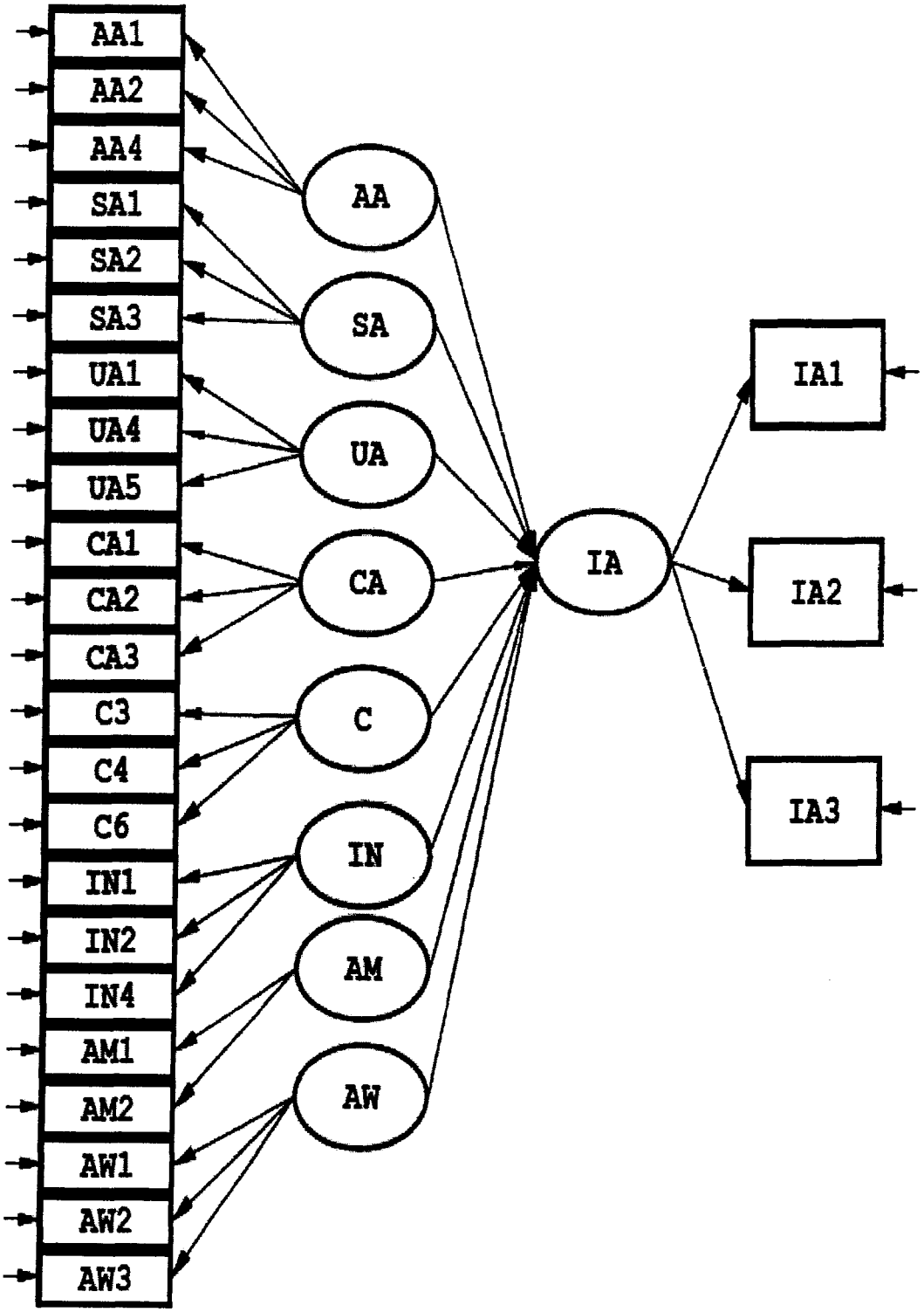


Figure 5.2: Conceptual Model of Mobile Advertising Adoption for Syria

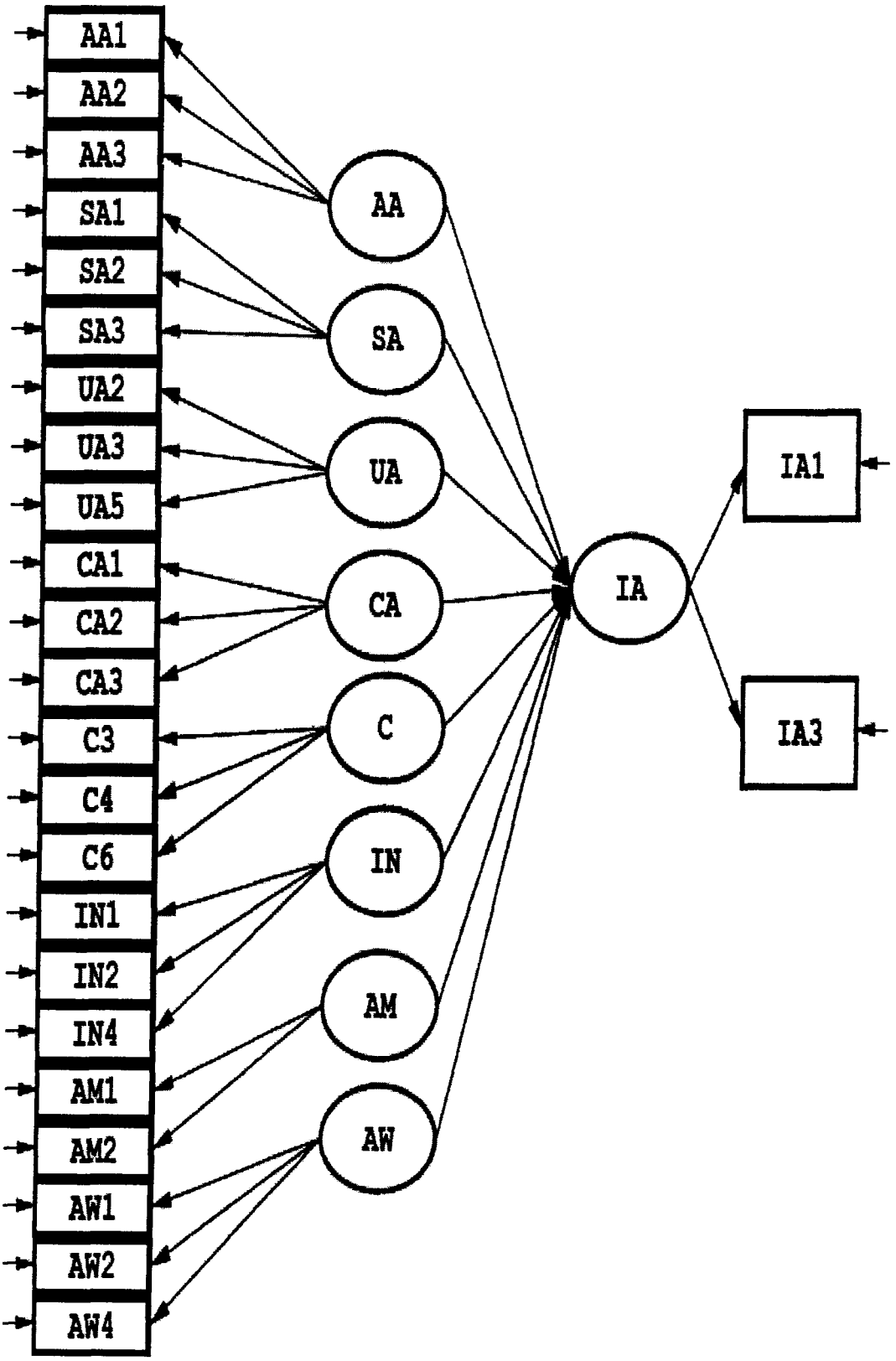


Table 5.34: Constructs of Mobile Services Research Model

Construct	*Description of the Construct*	*No. of Items*	*Items*	
			India	*Syria*
IS	Intention to Adopt Mobile Services **	3, 2	IS1 IS2 IS3	IS1 IS3
AS	Attitude towards Mobile Services *	3, 3	AS1 AS2 AS4	AS1 AS2 AS3
SS	Subjective Norms *	3, 3	SS1 SS2 SS3	SS1 SS2 SS3
US	Usefulness of Mobile Services *	3, 3	US2 US3 US5	US2 US3 US5
CS	Compatibility with Mobile Services *	3, 3	CS1 CS2 CS3	CS1 CS2 CS3
IN	Personal Innovativeness *	3, 3	IN1 IN2 IN4	IN1 IN2 IN4

** = Endogenous Latent Construct

* = Exogenous Latent Construct

Figure 5.3: Conceptual Model of Mobile Services Adoption for India

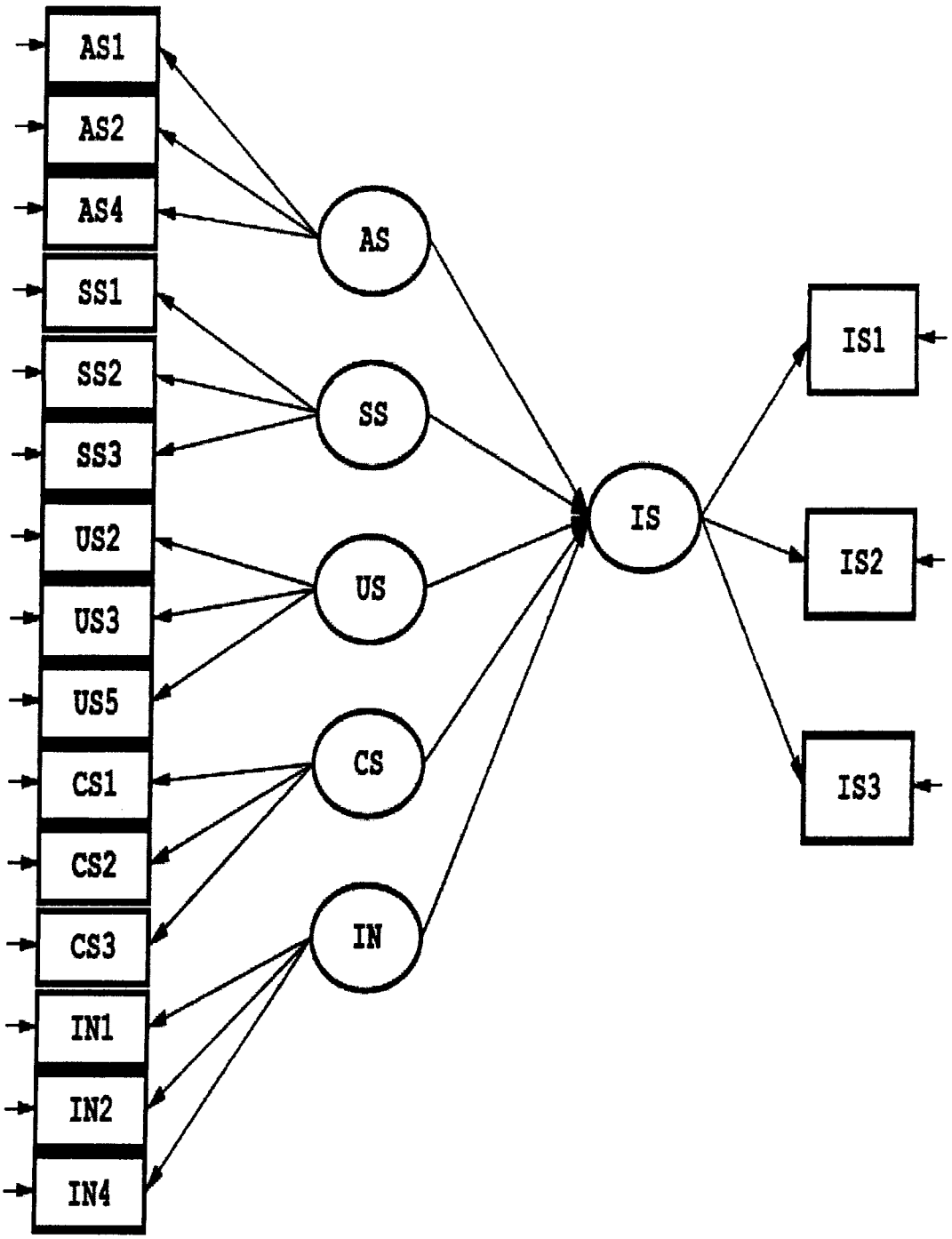
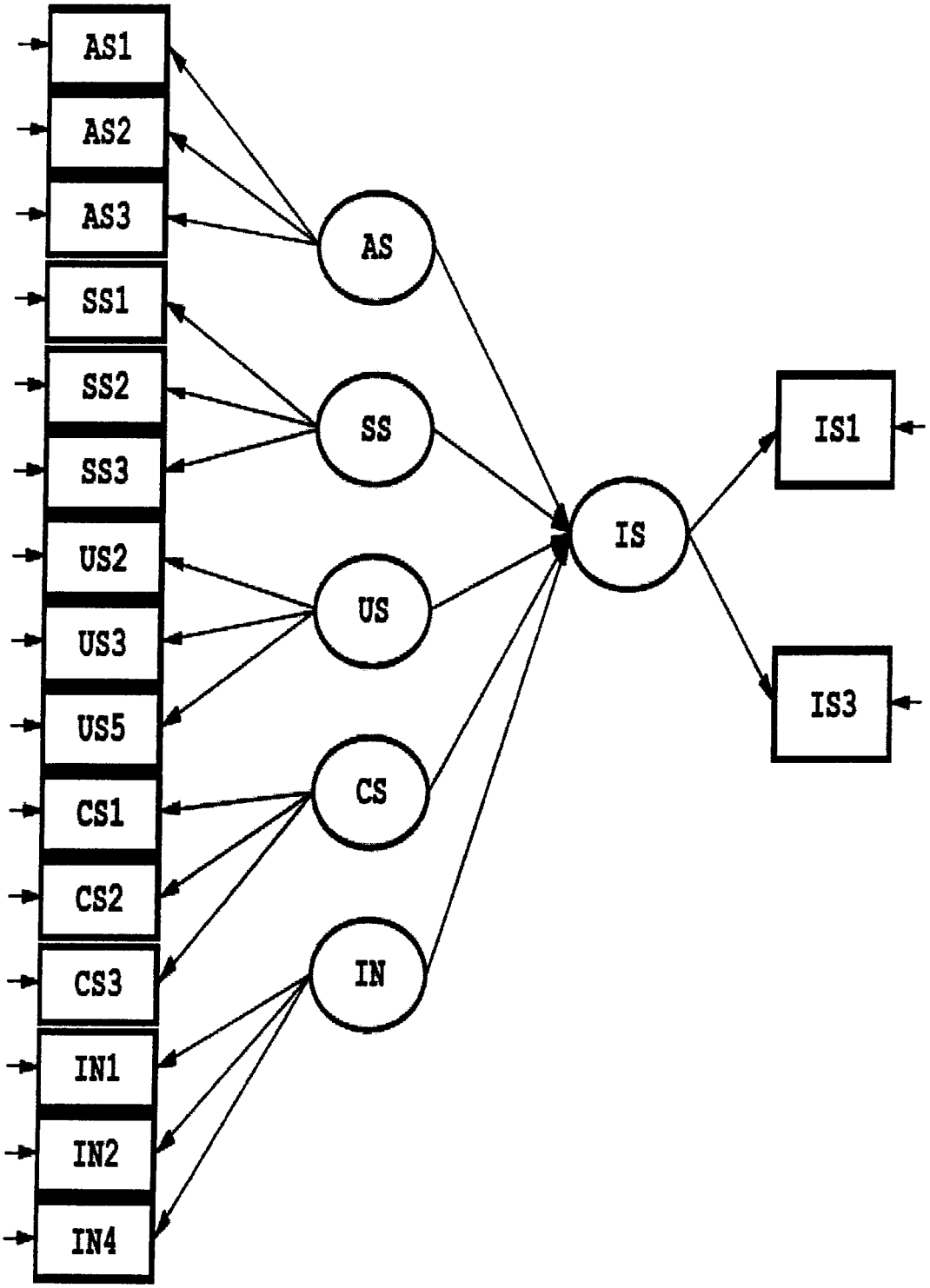


Figure 5.4: Conceptual Model of Mobile Services Adoption for Syria



5.5.2 MEASURES OF FIT

Assessing whether a specified model fits the data is one of the most important steps in Structural Equation Modelling (Yuan, 2005). While assessment of model fit, it is not necessary or realistic to include every index included in the LISREL's output. Since there are no golden rules for assessment of model fit, reporting a variety of indices is necessary (Crowley & Fan, 1997) because different indices reflect different aspects of model fit. In a review by McDonald and Ho (2002) it was found that the most commonly reported fit indices are the CFI, GFI, NFI and the NNFI. Furthermore, Kline (2005) and Hayduk *et al.* (2007) asserted that the Chi-Square along with its degrees of freedom and associated *p* value, should at all times be reported. Moreover, it is suggested by Hooper, Coughlan, & Mullen (2008) that it is sensible to report the Chi-Square statistic, its degrees of freedom and *p* value, the RMSEA and its associated confidence interval, the SRMR, the CFI and one parsimony fit index such as the PNFI. These indices have been chosen over other indices as they have been found to be the most insensitive to sample size, model misspecification and parameter estimates (Hooper *et al.*, 2008). In the light of the above, it was decided to report the Chi-Square and its degree of freedom, Normed Chi-square, RMSEA, SRMR, GFI, AGFI, CFI, NNFI and the PNFI. Table 5.35 lists these fit indices with their acceptable thresholds.

Table 5.35 Summary of the SEM Fit Indices with their Acceptable Thresholds

Fit Index	Acceptable Threshold Levels	Sources
Chi-Square $\chi 2$	Lower $\chi 2$ relative to degrees of freedom with P > 0.05	Hooper *et al.*, 2008
Normed $\chi 2$ ($\chi 2$/df)	2:1	Tabachnik & Fidell, 2007
	3:1	Kline, 2005
RMSEA	less than 0.07	Steiger, 2007
SRMR	less than 0.08	Hu & Bentler, 1999
GFI	≥ than 0.9	Jöreskog & Sörbom, 2002
AGFI	greater than 0.9	Bentler & Bonett, 1980
CFI	greater than 0.9	Bentler & Bonett, 1980
NNFI	≥ 0.95	Hu & Bentler,1999
Standardized Residuals	less than 2.58	Jöreskog & Sörbom, 2002
PNFI	no threshold levels	Hooper *et al.*, 2008

5.5.3 FIT ESTIMATES

The proposed research model (see Figure 11), which adapted and incorporated aspects of many theories of technology acceptance as well as the literature of mobile advertising and services, presents the possible influence of eight latent constructs (AA, SA, UA, CA, INN, C, AM, and AW) on behavioural intention (IA) to adopt mobile advertising and five latent constructs (AS, SS, US, CS, and IN) towards the behavioural intention (IS) to adopt mobile services.

While the Mobile Advertising Adoption Model for India is abbreviated as MAAMI, the Mobile Advertising Adoption Model for Syria is abbreviated as MAAMS. Whereas, the Mobile Service Adoption Model for India is abbreviated as MSAMI, the Mobile Services Adoption Model for Syria is abbreviated as MSAMS.

Table 5.36: Summary of the Fit Indices of the Four Models

FIT INDICATORS	MAAMI	MAAMS	MSAMI	MSAMS
$\chi 2$ (df)	399 (263)	468 (239)	200 (120)	253 (104)
$\chi 2$/df	1.52	1.96	1.67	2.43
RMSEA	0.036	0.0439	0.0409	0.0537
SRMR	0.0438	0.0505	0.0441	0.0463
CFI	0.972	0.975	0.981	0.974
NNFI	0.965	0.969	0.975	0.966
GFI	0.928	0.930	0.947	0.944
AGFI	0.904	0.905	0.925	0.917
PNFI	0.751	0.759	0.748	0.732

a) The Absolute Fit Indices

Absolute fit indices provide the most fundamental indication of how well the proposed theory fits the data. (McDonald & Ho, 2002; Hooper *et al.*, 2008). Included in this category are Chi-Squared test, RMSEA, SRMR, GFI, and AGFI.

- Chi-square $\chi 2$: It is a statistical fit index and the value obtained for the present study was within acceptable range.
- The RMSEA values for the four models viz. 0.0367, 0.0442, 0.044, and 0.052 indicate that the models have a close fit.
- The SRMR values of the four models 0.043, 0.047, 0.050, and 0.044 indicate a close fit of the models.
- A goodness of fit index (GFI) values of 0.931, 0.948, 0.930, and 0.945 suggest that evidence for unidimensionality exists (Jöreskog & Sörbom, 2002).
- Adjusted Goodness of Fit Index (AGFI) values are 0.907, 0.924, 0.905, and 0.920 which indicate an acceptable fit for the four models.

b) Normed Chi-square

Normed Chi-square is the minimum discrepancy divided by its degrees of freedom ($\chi 2$ / df); the ratio should be close to 1 for correct models. Although Arbuckle (2005) claimed that it is not clear how far from 1 we should let the ratio get before concluding that a model is unsatisfactory. In contrast, Byrne (2006) suggested that ratio should not exceed 3 before it cannot be accepted. The values of Normed chi-square viz. 1.536, 1.776, 1.959, and 2.35 are considered acceptable.

c) The Relative/ Incremental/ Comparative Fit Indices

Unlike the absolute fit indices, they do not measure how well the model fits in comparison to no model at all, but instead they rely on comparison with a baseline model (Jöreskog & Sörbom, 1993). Included in this category are CFI and NNFI.

- Comparative Fit Index (CFI) values 0.970, 0.978, 0.975, and 0.975 indicate a close fit for the four models.
- Non-Normed Fit Index (NNFI) values 0.963, 0.972, 0.969, and 0.968 indicate a close fit of the four models.

d) Parsimony Fit Indices

A model high in parsimony (simplicity) is a model with relatively few parameters and relatively many degrees of freedom. On the other hand, a model with many parameters and few degrees of freedom is said to be complex or lacking in parsimony (Hooper *et al.*, 2008). Many fit measures represent an attempt to balance these two conflicting objectives - simplicity and goodness of fit. The values of Parsimony Normed Fit Index (PNFI) were 0.737, 0.728, 0.759, and 0.759 for the four models.

5.5.4 PATH ANALYSIS AND HYPOTHESES TESTING

The structural model was estimated by LISREL 8.50. A standardized path estimate was used with Maximum Likelihood. We ran two models, one for mobile advertising and the other for mobile services. The path coefficients (parameter estimates or standardised loadings) were used to assess the magnitude and direction of relationships and thus test the research hypotheses. If model fit was acceptable, the parameter estimates were examined.

1) Path Analysis and Hypotheses Testing of Mobile Ads Adoption Models

The structural equation model results of Mobile Advertising Adoption Model for India (MAAMI) and Mobile Advertising Adoption Model of Syria (MAAMS) are given in Table 5.37 and presented in figures 5.5 & 5.6.

- Both MAAMI and MAAMS show that the attitude towards mobile advertising had a significant direct path and positive impact on intention to adopt mobile advertising. Thus, $H1_{CA}$ was **not rejected** for both models.

  $H1_{CA}$ *Attitude towards mobile ads* (AA) has direct and significant influence on *intention to adopt mobile ads* (IA).

- MAAMI shows that subjective norm for mobile advertising (SA) has a significant direct path and positive impact on the intention to adopt mobile advertising (IA). However, MAAMS shows that (SA) has no influence on the intention to adopt mobile advertising (IA). Thus, $H2_{CA}$ was **not rejected** in MAAMI but **rejected** in MAAMS.

  $H2_{CA}$ *Subjective norm for mobile ads* (SA) has direct and significant influence on *to adopt mobile ads* (IA).

Table 5.37: Summary of SEM Results of MAAMI and MAAMS

Paths	MAAMI		MAAMS	
	Parameter Estimate (β)	Hypothesis	Parameter Estimate (β)	Hypothesis
$H1_{CA}$ AA → IA	0.52	Not Rejected	0.55	Not Rejected
$H2_{CA}$ SA → IA	0.14	Not Rejected	0.04	Rejected
$H3_{CA}$ UA → IA	0.21	Not Rejected	-0.12	Rejected
$H4_{CA}$ CA → IA	0.24	Not Rejected	0.38	Not Rejected
$H5_{CA}$ IN → IA	-0.01	Rejected	-0.01	Rejected
$H6_{CA}$ C → IA	0.08	Not Rejected	0.01	Rejected
$H7_{CA}$ AM → IA	-0.17	Rejected	0.10	Not Rejected
$H8_{CA}$ AW→ IA	0.06	Not Rejected	0.00	Rejected

- MAAMI shows that perceived usefulness of mobile advertising (UA) has a significant direct path and positive impact on the intention to adopt mobile advertising (IA). However, MAAMS shows that the usefulness of mobile advertising (UA) has no influence on the intention to adopt mobile advertising (IA). Thus, $H3_{CA}$ was **not rejected** in MAAMI but **rejected** in MAAMS.

  $H3_{CA}$ *Perceived usefulness of mobile ads* (UA) has direct and significant influence on *intention to adopt mobile ads* (IA).

- Both models (MAAMI & MAAMS) show that the compatibility towards mobile advertising (CA) had a significant direct path and positive impact on the intention to adopt mobile advertising (IA). Thus, $H4_{CA}$ was **not rejected** for both models.

$H4_{CA}$ *Compatibility with mobile ads* (CA) has direct and significant influence on *intention to adopt mobile ads* (IA).

- Both, MAAMI and MAAMS showed that innovativeness (IN) had no significant direct path on intention to adopt mobile advertising (IA). Thus, $H5_{CA}$ was **rejected** in case of both models.

  $H5_{CA}$ *Personal innovativeness* (IN) has direct and significant influence on *intention to adopt mobile ads* (IA).

- MAAMI showed that the control of mobile advertising (C) had significant direct path and positive impact on intention to adopt mobile advertising (IA). However, MAAMS showed that the control of mobile advertising has no significant direct or impact on (IA). Thus, H6CA was **not rejected** for MAAMI but **rejected** for MAAMS.

  $H6_{CA}$ *Control of mobile ads* (C) has direct and significant influence on *intention to adopt mobile ads* (IA).

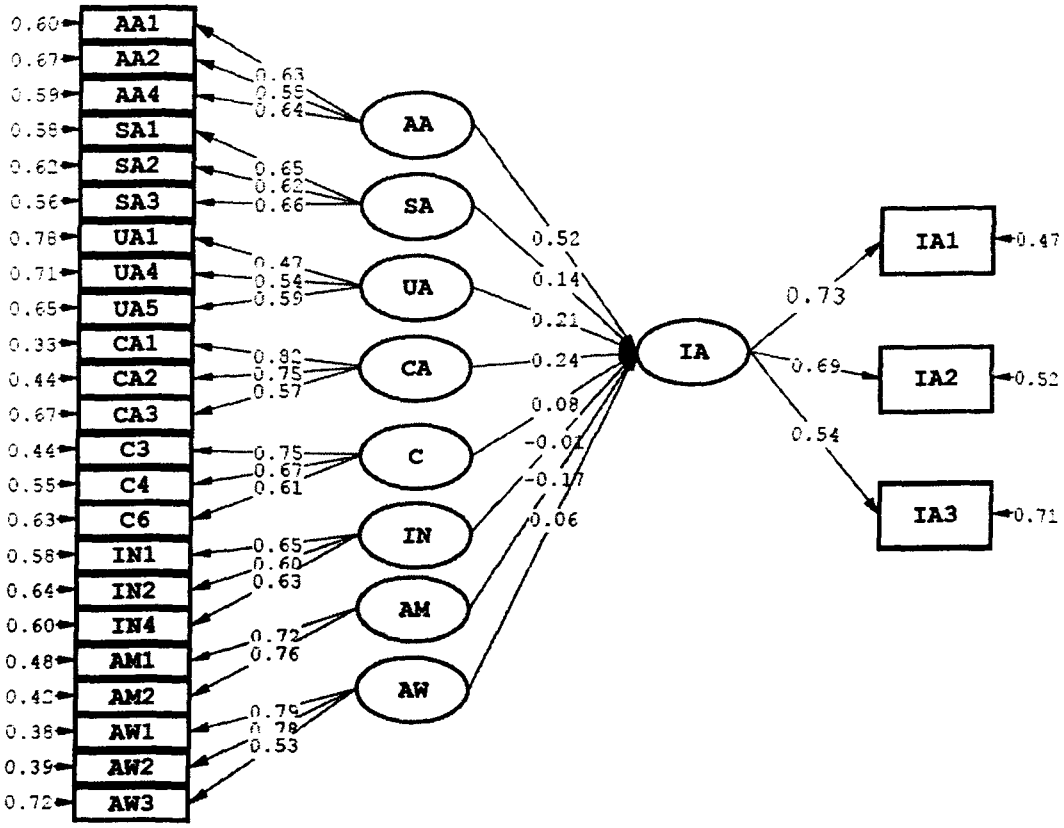
- MAAMI showed that the attitude towards mass media advertising (AM) had no significant direct path or impact on intention to adopt mobile advertising (IA). However, MAAMS showed that (AM) has a significant direct and positive impact on (IA). Thus, $H7_{CA}$ was **rejected** in MAAMI but **not rejected** in MAAMS.

  $H7_{CA}$ *Attitude towards mass media ads* (AM) has direct and significant influence on *intention to adopt mobile ads* (IA).

- MAAMI showed that the consumer awareness of advertising (AW) had a significant direct path and impact on intention to adopt mobile advertising (IA). However, MAAMS showed that (AW) has no significant direct path or impact on (IA). Thus, $H8_{CA}$ was **not rejected** in MAAMI but **rejected** in MAAMS.

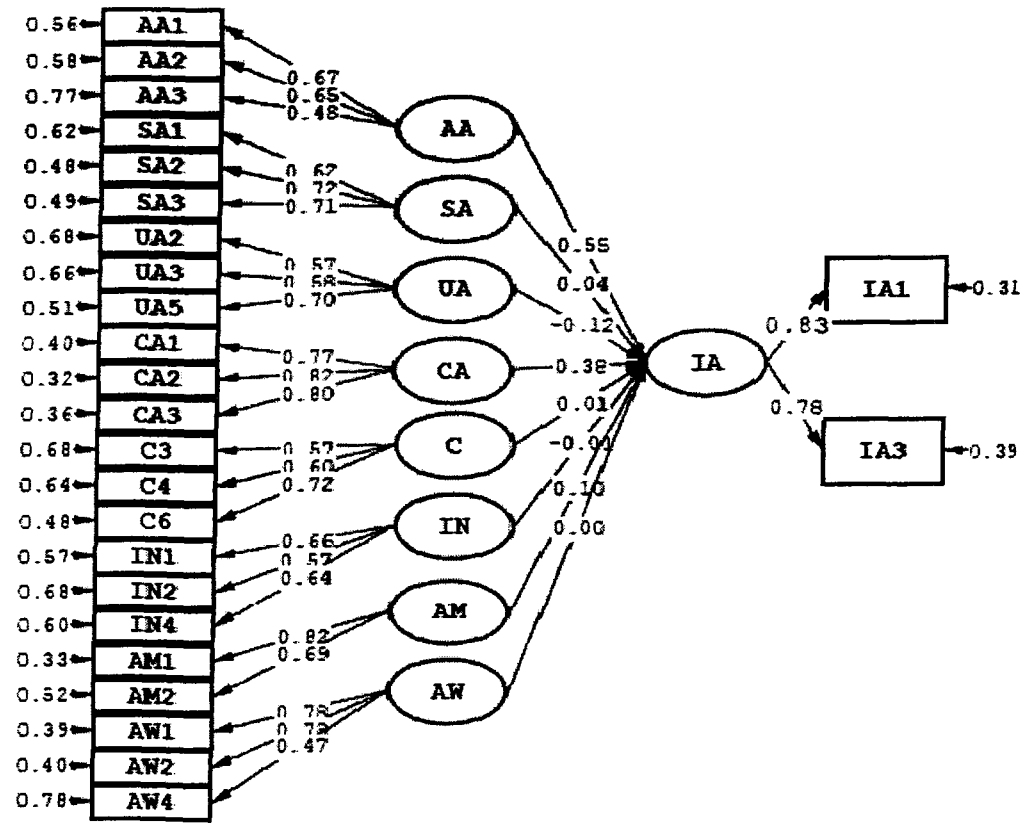
  $H8_{CA}$ *Awareness of mass media ads* (AW) has direct and significant influence on *intention to adopt mobile ads* (IA).

Figure 5.5: Standardized Path Estimates for MAAMI



Chi-Square=398.88, df=263, P-value=0.00000, RMSEA=0.036

Figure 5.6: Standardized Path Estimates for MAAMS



Chi-Square=468.17, df=239, P-value=0.00000, RMSEA=0.044

2) Path Analysis and Hypotheses Testing of Mobile Services Adoption Models

The structural equation model (SEM) results for Mobile Services Adoption Model for India (MSAMI) and Mobile Services Adoption Model for Syria (MSAMS) are given in table 5.43 and presented in figures 2.2.1 and 2.2.2.

Table 5.38: Summary of SEM Results of MSAMI & MSAMS

Paths	MSAMI		MSAMS	
	Parameter Estimate (β)	Hypothesis	Parameter Estimate (β)	Hypothesis
H1cs AS → IS	0.47	Not Rejected	0.58	Not Rejected
H2cs SS → IS	0.21	Not Rejected	0.05	Not Rejected
H3cs US → IS	0.20	Not Rejected	0.28	Not Rejected
H4cs CS → IS	0.08	Not Rejected	-0.20	Rejected
H5cs IN → IS	0.07	Not Rejected	0.24	Not Rejected

- Both Indian and Syrian models show that the attitude towards mobile service (AS) has a significant direct and positive impact on adoption of mobile service (IS). Thus, $H1_{CS}$ was **not rejected** for both models.

  H1cs *Attitude towards mobile services* (AS) has direct and significant influence on *intention to adopt mobile services* (IS).

- Both models show that subjective norm for mobile service (SS) has a significant direct impact on adoption of mobile service (IS). Thus, $H2_{CS}$ was **not rejected** for both Indian and Syrian models.

  H2cs *Subjective norm for mobile services* (SS) has direct and significant influence on *intention to adopt mobile services* (IS).

- Both models show that the perceived usefulness of mobile advertising (US) has a significant direct and positive impact on adoption of mobile advertising (IS). Thus, $H3_{CS}$ was **not rejected** for both Indian and Syrian models.

  $H3_{CS}$ *Perceived usefulness of mobile services* (US) has direct and significant influence on *intention to adopt mobile services* (IS).

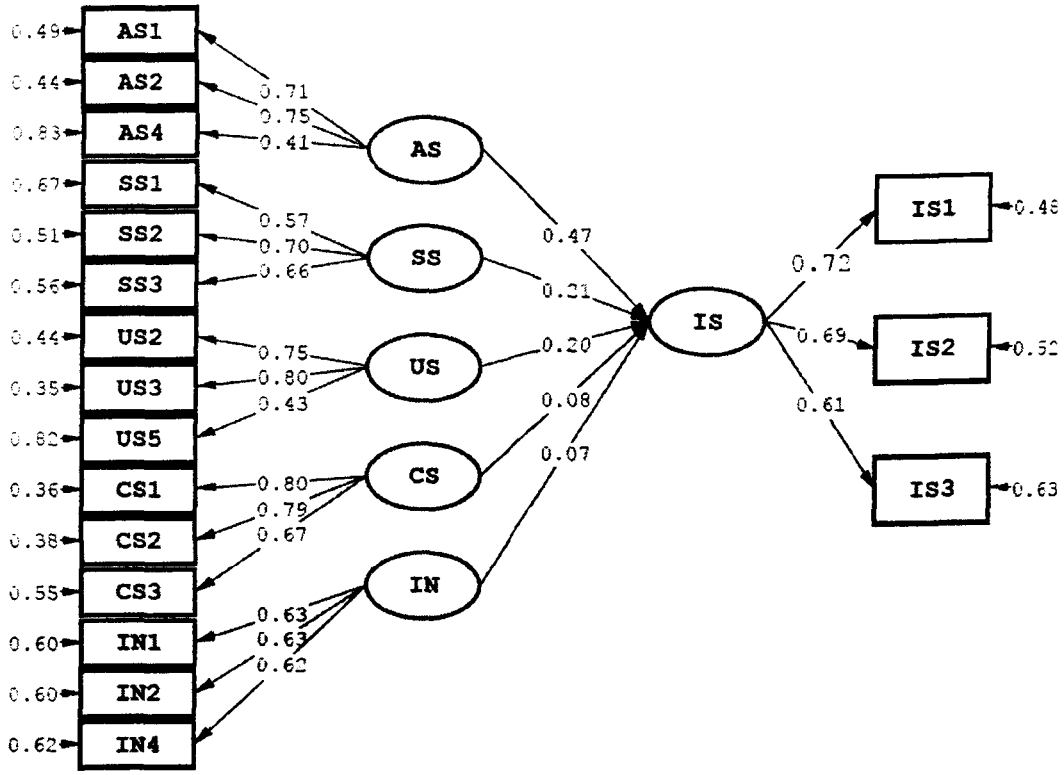
- MSAMI showed that the compatibility with mobile services (CS) has significant direct path and positive impact on intention to adopt mobile services (IS). However, MSAMS showed that the compatibility with mobile services has no significant path or impact on (IS). Thus, $H4_{CS}$ was **not rejected** in MSAMI but **rejected** in MSAMS.

  $H4_{CS}$ *Compatibility with mobile services* (CS) has direct and significant influence on *intention to adopt mobile services* (IS).

- MSAMI and MSAMS showed that innovativeness (IN) had a significant direct path and positive impact on intention to adopt mobile services (IS). Thus, $H5_{CS}$ was **not rejected** in both models.

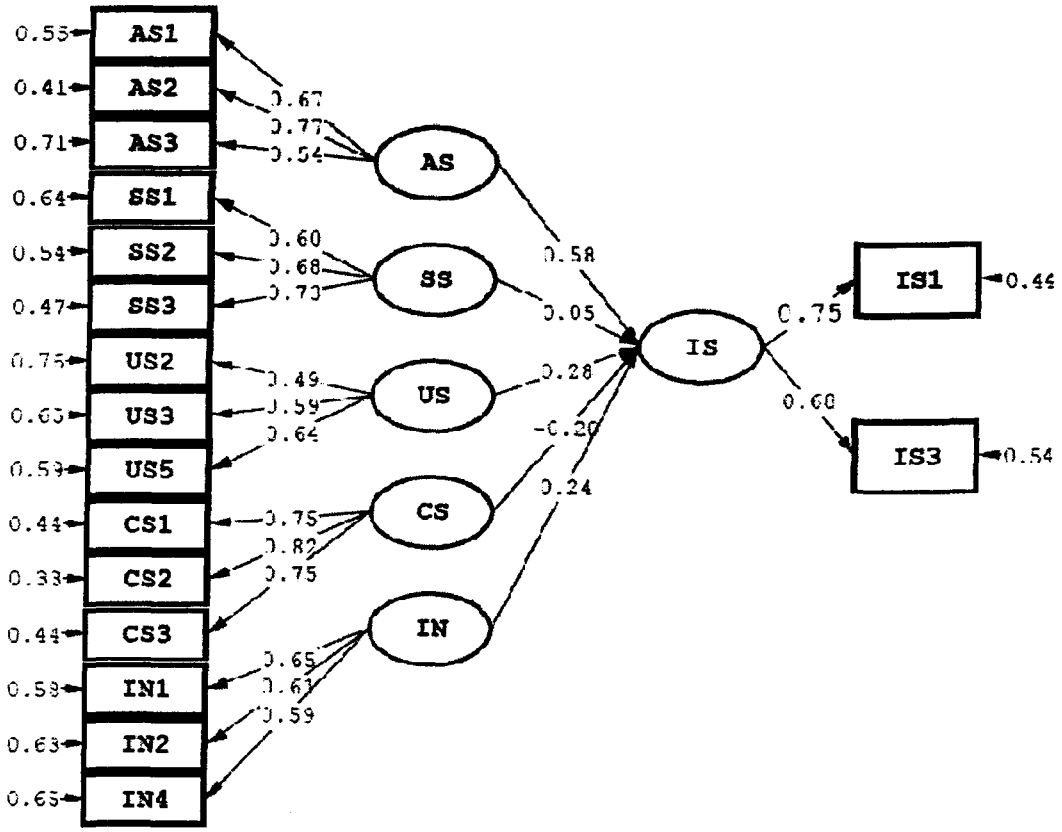
  $H5_{CS}$ *Personal innovativeness* (IN) has direct and significant influence on *intention to adopt mobile services* (IS).

Figure 5.7: Standardized Path Estimates for MSAMI



Chi-Square=199.89, df=120, P-value=0.00001, RMSEA=0.041

Figure 5.8: Standardized Path Estimates for MSAMS



Chi-Square=253.23, df=104, P-value=0.00000, RMSEA=0.054

5.6 SUMMARY

This chapter started with the reliability and validity analysis as well as a principal component analysis of the survey instrument. Each multi-item scale was factor-analyzed to evaluate dimensionality, and reliability analysis was performed to determine if each item contributed to scale reliability. Besides, correlational analysis was applied to confirm the validity of the construct. After the refinement (by deleting some items), the results were acceptable and confirmed that the instrument was reliable and valid.

The findings associated with the descriptive analysis of demographic characteristics indicated that the majority of respondents in the Indian sample were males (63.7 %) in the age band of 20-25 years (92.5 %), and enrolled in Masters Level programmes (95%). On the other hand, the Syrian sample comprised 48.6% males and 51.4% females. Majority of them were in the age range of 20-25 years (68.8%) and 14-19 (27%) and were enrolled in Bachelor Level Programmes (97.2 %).

Furthermore, independent samples t-test was employed to investigate the differences between Indian and Syrian respondents. The results indicated that there were no significant differences between them in all constructs excepts 1) compatibility with advertising 2) compatibility with services, 3) awareness of mass media advertising, 4) intention to adopt mobile services 5), and intention to adopt the mobile advertising. Thus, three null hypotheses ($H4_{AA}$, $H5_{A}$ and $H9_{AA}$) are rejected out of nine related to mobile advertising ($H1_{AA}$-$H9_{AA}$) and two null hypotheses ($H4_{AS}$ and $H9_{AS}$) were also rejected out of five related to mobile services ($H1_{AS}$-$H5_{AS}$) (Please, see Tables 6.1 & 6.2 in Chapter 6).

Moreover, a one-way-analysis of variance (ANOVA) was applied to determine whether Indian females, Indian males, Syrian females and Syrian males differ significantly from one another vis-a-vis the constructs in the study. The results showed that there were no significant differences between them in all constructs except 1) compatibility with mobile advertising, 2) compatibility with mobile services, 3) personal innovativeness, 4) control 5) awareness of mass media advertising, 6) intention to use mobile advertising, and 7) intention to use mobile services. Thus, five null hypotheses were rejected ($H4_{BA}$, $H5_{B}$, $H6_{BA}$,

$H8_{BA}$, & $H9_{BA}$) out of nine ($H1_{BA}$-$H9_{BA}$) related to mobile advertising and two null hypotheses ($H5_{BS}$ & $H5_{BS}$) were also rejected out of six ($H1_{BS}$-$H6_{BS}$) related to mobile services (Please, see Tables 6.3 & 6.4 in Chapter 6).

Furthermore, in this chapter, results of SEM are presented and discussed along with the results of hypotheses testing. The four research models (MAAMI, MAAMS, MSAMI, and MSAMS) were tested to explore the influence of factors on behavioural intention. Hypotheses related to factors and behaviour intention for each model were tested. In MAAMI, six null hypotheses out of eight ($H1_{CA}$, $H2_{CA}$ $H3_{CA}$, $H4_{CA}$, $H6_{CA}$, & $H8_{CA}$) could not be rejected. It indicated that attitude towards mobile ads (AA) ($H1_{CA}$), subjective norm for mobile ads (SA) ($H2_{CA}$), perceived usefulness of mobile ads (UA) ($H3_{CA}$), compatibility with mobile ads (CA) ($H4_{CA}$), control of mobile ads (C) ($H6_{CA}$), and awareness of mass media ads (AW) ($H8_{CA}$) significantly influenced intention to adopt mobile ads for India (Please, see Table 5.37). In MAAMS, three null hypotheses out of eight ($H1_{CA}$, $H4_{CA}$, & $H7_{CA}$) could not be rejected. It indicated that attitude towards mobile advertising (AA) ($H1_{CA}$), compatibility with mobile advertising (CA) ($H4_{CA}$) and attitude towards mass media advertising (AM) ($H7_{CA}$) significantly influence intention to adopt mobile advertising for Syria (see Table 6.37). In MSAMI, all five null hypotheses ($H1_{CS}$, $H2_{CS}$ $H3_{CS}$, $H4_{CS}$, & $H5_{CS}$) could not be rejected. It indicated that attitude towards mobile services (AS) ($H1_{CS}$), subjective norm for mobile services (SS) ($H2_{CS}$), perceived usefulness of mobile services (US) ($H3_{CS}$), compatibility with mobile services (CS) ($H4_{CS}$) and consumer innovativeness (IN) ($H5_{CS}$) significantly influence intention to adopt mobile services for India (see Table 5.38). In MSAMS, four null hypotheses out of five ($H1_{CS}$, $H2_{CS}$, $H3_{CS}$, & $H5_{CS}$) were not rejected. It indicated that attitude towards mobile services (AS) ($H1_{CS}$), subjective norm for mobile services (SS) ($H2_{CS}$), perceived usefulness of mobile services (US) ($H3_{CS}$), and consumer innovativeness (IN) ($H5_{CS}$) significantly influence intention to adopt mobile services for Syria (see Table 5.38). The rest were not found to be statistically significant.

CHAPTER 6

CONCLUSIONS AND SUGGESTIONS

6.1 INTRODUCTION

The purpose of this chapter is to summarise and discuss the key findings of the study. The findings associated with respondents' demographic characteristics, mobile usage, differences between Indian and Syrian respondents, as well as differences between Indian male, Indian female, Syrian male, and Syrian female respondents have been summarised. The findings of the four models i.e. MAAMI, MAAMS, MSAMI, and MSAMS have also been summarised and discussed. The chapter also highlights theoretical and practical implications of the study. In the end, limitations of the study and suggestions for further research are presented.

6.2 DEMOGRAPHIC CHARACTERISTICS

1) Age and Gender

The majority of the sample comprised respondents who fell in the age group of 20 and 25 years (93% and 69% for India and Syria, respectively). Besides, it was observed that majority of Indian respondents were male (64%), while in contrast, female respondents slightly dominated the Syrian sample (51%).

2) Education Level

The majority of Indian respondents (95%) were pursuing education at Masters Level whereas the majority of Syrian respondents (97%) were at Bachelors Level. It is to be noted that in case of Syria, most of the institutions covered in the survey, offering management and commerce education, had negligible student presence at the Masters Level.

6.3 MOBILE USAGE CHARACTERISTICS OF RESPONDENTS

1) **Type of connection**: Pre-paid mobile connections seem to dominate in both the countries. The figure was slightly higher (88%) for India in comparison to Syria (75%).

2) **Monthly mobile bill**: Majority of respondents from India (95%) and Syria (69%) were spending less than Rs. 1,000[1].

3) **Number of calls made and received**: Around 60% of the Indian respondents were making more than five calls a day, whereas it was around 50% for Syrian respondents. Also, the percentage of Indian respondents who received more than five calls a day was roughly 70%, whereas it was only 55% for Syrian respondents. Thus, Indian respondents exhibited higher propensity to make and receive calls.

4) **Number of SMS/MMS sent and received**: Around 50% of the Indian respondents sent more than five SMS/MMS a day, whereas this figure was around 12% for Syria. Also, the percentage of Indian respondents who received more than five SMS/MMS a day was roughly 70% whereas it was around 14% for Syria. The higher frequency of sending and receiving of SMS/MMS in case of India can largely be attributed to considerably lower tariffs in comparison to Syria. In fact, the SMS tariffs are ten times higher in case of Syria[2].

6.4 RESULTS OF HYPOTHESES TESTING

Summary results of Hypotheses (1) H_{AA} & H_{AS} (testing significant differences between the Indian and Syrian respondents), (2) H_{BA} & H_{BS} (testing significant differences with respect to gender) and (3) H_{CA} & H_{CS} (testing significant paths between key factors and behavioural intention) are presented in this section.

[1] One Indian rupee = One Syrian Pound

[2] In Syria, one local SMS costs roughly around Rs 5 whereas in India it costs just Rs 0.50

6.4.1 Hypotheses Testing: Differences Between Respondents

Independent sample t-test was employed to investigate the differences between Indian and Syrian respondents. The results indicated that significant differences did not exist between them on various constructs except 1) compatibility towards advertising, 2) compatibility towards services, 3) awareness of mass media advertising, 4) the intention to adopt mobile service, and 5) the intention to adopt the mobile advertising. Thus, three null hypotheses ($H4_{AA}$, $H5_{A}$, and $H9_{AA}$,) were rejected out of nine ($H1_{AA}$-$H9_{AA}$) related to mobile advertising and two of the null hypotheses ($H4_{AS}$ and $H9_{AS}$) were rejected out of five ($H1_{AS}$-$H5_{AS}$) related to mobile services (Please see Tables 6.1 and 6.2).

Table 6.1 Summary Results of Hypotheses Testing for Mobile Advertising: Differences between Indian and Syrian Respondents

Ho No.	Constructs	Results
$H1_{AA}$	Attitude toward mobile ads (AA)	Not Rejected
$H2_{AA}$	Subjective norm (SA)	Not Rejected
$H3_{AA}$	Perceived usefulness (UA)	Not Rejected
$H4_{AA}$	Compatibility with mobile ads (CA)	Rejected
$H5_{AA}$	Personal innovativeness (IN)	Not Rejected
$H6_{AA}$	Control of mobile ads (C)	Not Rejected
$H7_{AA}$	Attitude towards mass media ads (AM)	Not Rejected
$H8_{AA}$	Awareness of mass media ads (AW)	Rejected
$H9_{AA}$	Intention to adopt mobile ads (IA)	Rejected

Table 6.2 Summary Results of Hypotheses Testing for Mobile Services: Differences Between Indian and Syrian Respondents

Ho No.	Constructs	Result
$H1_{AS}$	Attitude toward mobile service (AS)	Not Rejected
$H2_{AS}$	Subjective norm (SS)	Not Rejected
$H3_{AS}$	Perceived usefulness (US)	Not Rejected
$H4_{AS}$	Compatibility with mobile services (CS)	Rejected
$H5_{AS}$	Personal innovativeness (IN)	Not Rejected
$H6_{AS}$	Intention to adopt mobile services (IS)	Rejected

6.4.2 Hypotheses Testing: Differences Between Genders

A one-way-ANalysis Of VAriance (ANOVA) was applied to determine whether Indian females, Indian males, Syrian females and Syrian males differ significantly from one another in terms of the various constructs of the study. The results showed that there were no significant differences between them except for 1) compatibility with mobile advertising, 2) compatibility with mobile services, 3) personal innovativeness, 4) control 5) awareness of mass media advertising, 6) intention to use mobile advertising, and 7) intention to use mobile services. Thus, five null hypotheses ($H4_{BA}$, $H5_{BA}$, $H6_{BA}$, $H8_{BA}$ & $H9_{BA}$) related to mobile advertising were rejected out of nine ($H1_{BA}$ - $H9_{BA}$) and two null hypotheses ($H5_{BS}$ & $H5_{BS}$) were rejected out of six ($H1_{BS}$ - $H6_{BS}$) related to mobile services (Please, see Tables 6.3 and 6.4).

Table 6.3 Summary Results of Hypotheses Testing for Mobile Advertising: Differences between Indian Male, Indian female, Syrian male, and Syrian female Respondents

Hypothesis	Constructs	Results
$H1_{BA}$	Attitude towards mobile ads (AA)	Not Rejected
$H2_{BA}$	Subjective norm (SA)	Not Rejected
$H3_{AA}$	Perceived usefulness (UA)	Not Rejected
$H4_{BA}$	Compatibility with mobile ads (CA)	Rejected
$H5_{BA}$	Personal innovativeness (IN)	Rejected
$H6_{BA}$	Control of mobile ads (C)	Rejected
$H7_{BA}$	Attitude towards mass media ads (AM)	Not Rejected
$H8_{BA}$	Awareness of mass media ads (AW)	Rejected
$H9_{BA}$	Intention to adopt mobile ads (IA)	Rejected

Table 6.4 Summary Results of Hypotheses Testing for Mobile Services: Differences between Indian Male, Indian female, Syrian male, and Syrian female Respondents

Hypothesis	Constructs	Results
$H1_{BS}$	Attitude toward mobile service (AS)	Not Rejected
$H2_{BS}$	Subjective norm (SS)	Not Rejected
$H3_{BS}$	Perceived usefulness (US)	Not Rejected
$H4_{BS}$	Compatibility with mobile services (CS)	Rejected
$H5_{BS}$	Personal innovativeness (IN)	Rejected
$H6_{BS}$	Intention to adopt mobile services (IS)	Rejected

6.4.3 Hypotheses Testing: Mobile Advertising Adoption Model

The following section presents results of hypotheses testing for two models viz. Mobile Advertising Adoption Model for India (MAAMI) and Mobile Advertising Adoption Model for Syria (MAAMS).

1) Mobile Advertising Adoption Model for India (MAAMI)

Six null hypotheses ($H1_{CA}$, $H2_{CA}$, $H3_{CA}$, $H4_{CA}$, $H6_{CA}$ & $H8_{CA}$) out of eight were not rejected. Thus, attitude towards mobile ads (AA) ($H1_{CA}$), subjective norm for mobile ads (SA) ($H2_{CA}$), perceived usefulness of mobile ads (UA) ($H3_{CA}$), compatibility with mobile ads (CA) ($H4_{CA}$), control of mobile ads (C) ($H6_{CA}$), and awareness of mass media ads (AW) ($H8_{CA}$) significantly influenced intention to adopt mobile ads for India (Please, see Table 6.5).

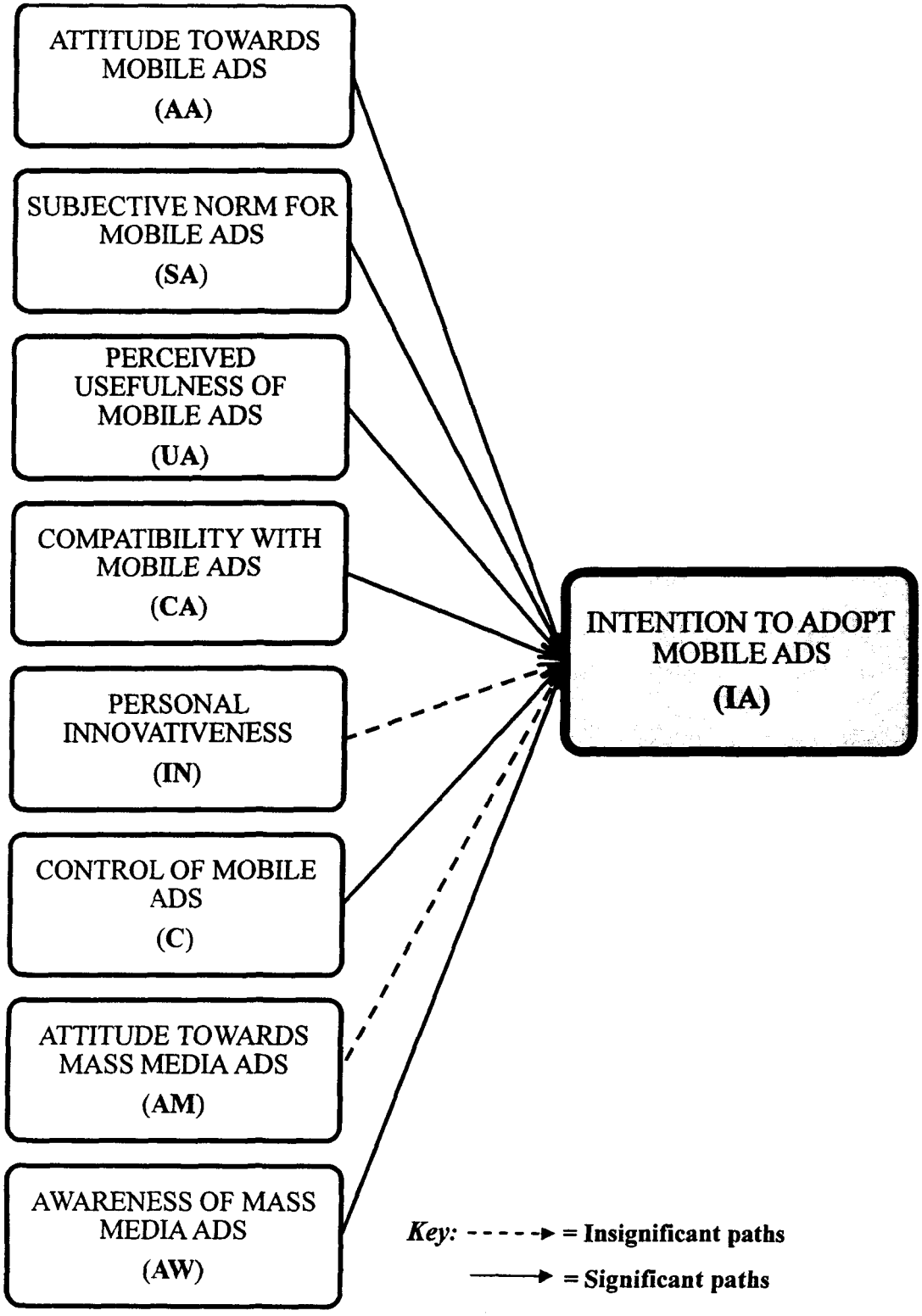
Table 6.5 Summary Results of Hypotheses Testing for MAAMI

Hypo.	Exogenous Latent Constructs	Endogenous Latent Constructs	Results	Explanation
$H1_{CA}$	Attitude toward m-ads (AA)	Adoption Intention towards m-ads (IA)	Not rejected	(AA) significantly influenced (IA)
$H2_{CA}$	Subjective norm (SA)	Adoption Intention towards m-ads (IA)	Not Rejected	(SA) significantly influenced
$H3_{CA}$	Perceived usefulness (UA)	Adoption Intention towards m-ads (IA)	Not rejected	(UA) significantly influenced (IA)
$H4_{CA}$	Compatibility with mobile ads (CA)	Adoption Intention towards m-ads (IA)	Not rejected	(CA) significantly influenced (IA)
$H5_{CA}$	Personal innovativeness (IN)	Adoption Intention towards m-ads (IA)	*Rejected*	(IN) significantly influenced (IA)
$H6_{CA}$	Control of m-ads (C)	Adoption Intention towards m-ads (IA)	Not Rejected	(C) significantly influenced (IA)
$H7_{CA}$	Attitude towards mass media ads (AM)	Adoption Intention towards m-ads (IA)	*Rejected*	(AM) significantly influenced (IA)
$H8_{CA}$	Awareness of mass media ads (AW)	Adoption Intention towards m-ads (IA)	Not Rejected	(CW) significantly influenced (IA)

Thus, the Mobile Advertising Adoption Model for India (MAAMI) (Please, see Figure 6.1) posits six significant factors influencing intention to adopt mobile advertising (IA) viz. 1) Attitude towards mobile ads (AA), 2) Subjective norm

for mobile advertising (SA), 3) Perceived usefulness of mobile ads (UA), 4) Compatibility with mobile ads (CA), 5) Controlling mobile advertising (C) and 6) Awareness of mass media ads (AW).

Figure: 6.1 Mobile Advertising Adoption Model for India (MAAMI)



2) Mobile Advertising Adoption Model for Syria (MAAMS)

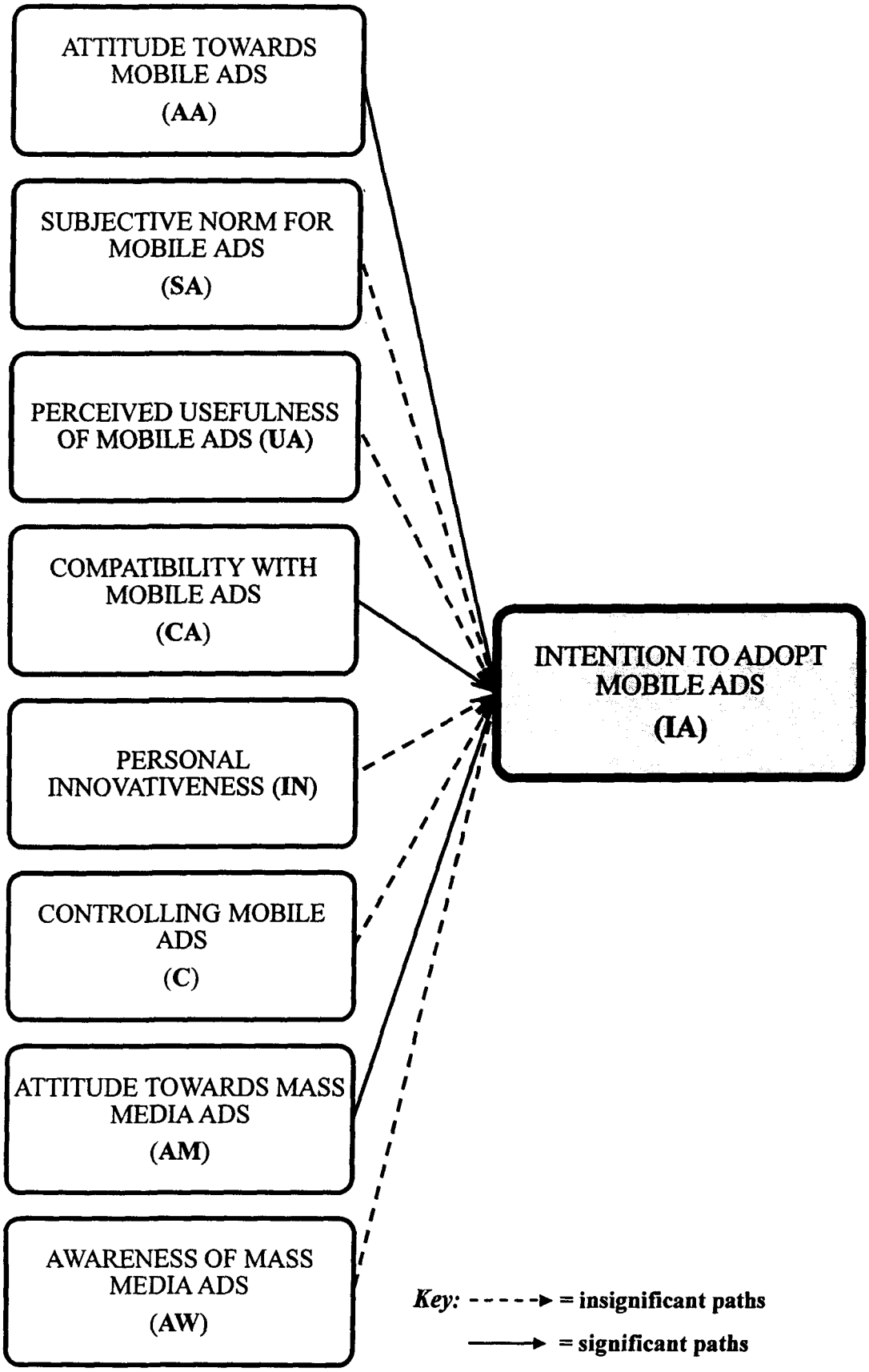
Three null hypotheses ($H1_{CA}$, $H4_{CA}$, & $H7_{CA}$) out of eight were not rejected. It demonstrated that attitude towards mobile advertising (AA) ($H1_{CA}$), compatibility with mobile advertising (CA) ($H4_{CA}$) and attitude towards mass media advertising (AM) ($H7_{CA}$) significantly influenced intention to adopt mobile advertising in case of Syria (see Table 6.6).

Table 6.6 Summary Results of Hypotheses Testing for MAAMS

Hypo.	Exogenous Latent Constructs	Endogenous Latent Construct	Results	Explanation
$H1_{CA}$	Attitude toward M-ads (AA)	Adoption Intention towards M-ads (IA)	Not rejected	(AA) significantly influenced (IA)
$H2_{CA}$	Subjective Norm (SA)	Adoption Intention towards M-ads (IA)	Rejected	(SA) significantly influenced
$H3_{CA}$	Perceived usefulness (UA)	Adoption Intention towards M-ads (IA)	Rejected	(UA) significantly influenced (IA)
$H4_{CA}$	Compatibility with mobile ads (CA)	Adoption Intention towards M-ads (IA)	Not rejected	(CA) significantly influenced (IA)
$H5_{CA}$	Personal innovativeness (IN)	Adoption Intention towards M-ads (IA)	Rejected	(IN) significantly influenced (IA)
$H6_{CA}$	Control of m-ads (C)	Adoption Intention towards M-ads (IA)	Rejected	(C) significantly influenced (IA)
$H7_{CA}$	Attitude towards mass media ads (AM)	Adoption Intention towards M-ads (IA)	Not rejected	(AM) significantly influenced (IA)
$H8_{CA}$	Awareness of mass media ads (AW)	Adoption Intention towards M-ads (IA)	Rejected	(CW) significantly influenced (IA)

Thus, Mobile Advertising Adoption Model for Syria (MAAMS) posits three significant factors influencing intention to adopt mobile advertising (IA) viz. 1) Attitude towards mobile ads (AA), 2) Compatibility with mobile ads (CA) and 3) Attitude towards mass media advertising (AM) (Please see Figure 6.2).

Figure 6.2: Mobile Advertising Adoption Model for Syria (MAAMS)



6.4.4 Hypotheses Testing: Mobile Services Adoption Model

1) Mobile Services Adoption Model for India (MSAMI)

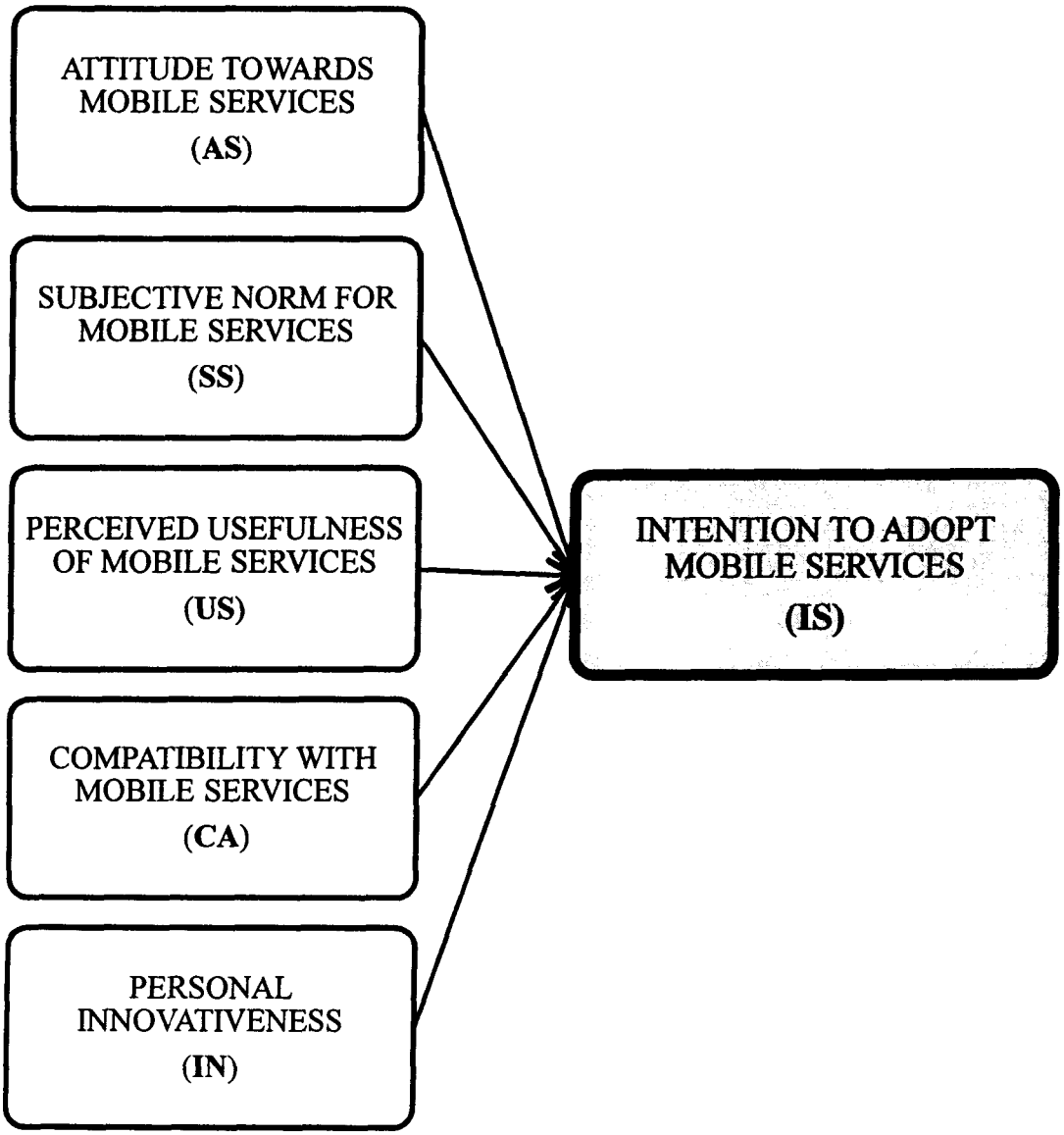
All five null hypotheses ($H1_{CS}$, $H2_{CS}$, $H3_{CS}$, $H4_{CS}$ & $H5_{CS}$) were not rejected. This indicated that attitude towards mobile services (AS) ($H1_{CS}$), subjective norm for mobile services (SS) ($H2_{CS}$), perceived usefulness of mobile services (US) ($H3_{CS}$), compatibility with mobile services (CS) ($H4_{CS}$) and consumer innovativeness (IN) ($H5_{CS}$) significantly influence intention to adopt mobile services in case of India (Please, see Table 6.7).

Table 6.7 Summary Results of Hypotheses Testing for MSAMI

Hypo.	Exogenous Latent Constructs	Endogenous Latent Construct	Results	Explanation
$H1_{CS}$	Attitude toward M-Service (AS)	Adoption Intention towards Mobile Services (IS)	Not Rejected	(AA) significantly influenced (IA)
$H2_{CS}$	Subjective Norm (SS)	Adoption Intention towards Mobile Services (IS)	Not Rejected	(SA) significantly influenced
$H3_{CS}$	Perceived usefulness (US)	Adoption Intention towards Mobile Services (IS)	Not Rejected	(UA) significantly influenced (IA)
$H4_{CS}$	Compatibility with M-Services (CA)	Adoption Intention towards Mobile Services (IS)	Not Rejected	(CA) significantly influenced (IA)
$H5_{CS}$	Personal innovativeness (IN)	Adoption Intention towards Mobile Services (IS)	Not Rejected	(IN) significantly influenced (IA)

Thus, Mobile Services Adoption Model for India (MSAMI) posits all factors proposed in the conceptual model (Please see Figure 6.3). These factors are 1) Attitude towards mobile services (AS), 2) Subjective norm for mobile services (SS), 3) Perceived usefulness of mobile services (US), 4) Compatibility with mobile services (CA) and 5) Personal innovativeness (IN).

Figure 6.3: Mobile Services Adoption Model for India (MSAMI)



Key: ——▶ = **Significant paths.**

2) Mobile Services Adoption Model for Syria (MSAMS)

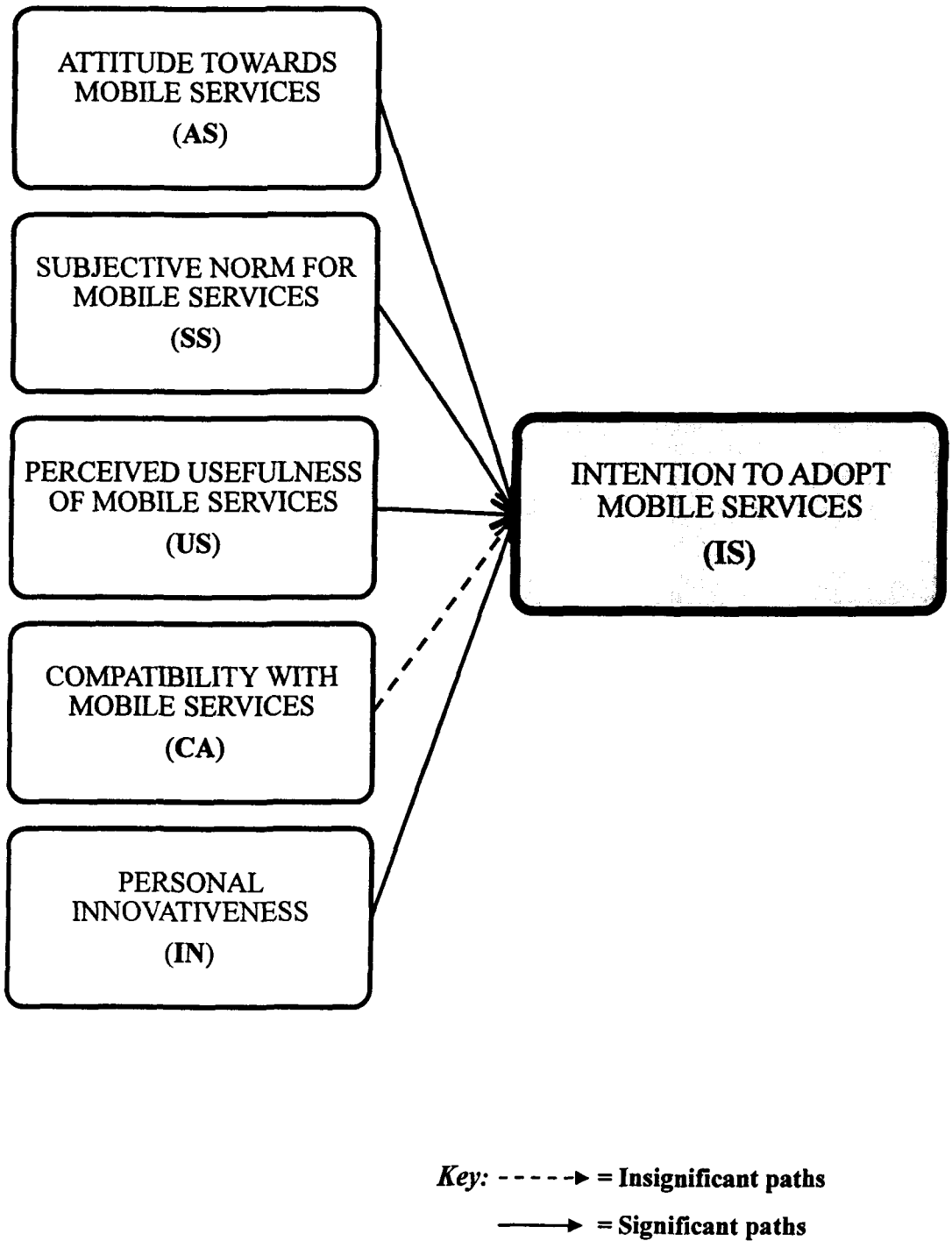
Four null hypotheses ($H1_{CS}$, $H2_{CS}$, $H3_{CS}$, & $H5_{CS}$) out of five were not rejected. It indicated that attitude towards mobile services (AS) ($H1_{CS}$), subjective norm for mobile services (SS) ($H2_{CS}$), perceived usefulness of mobile services (US) ($H3_{CS}$), and consumers' innovativeness (IN) ($H5_{CS}$) significantly influence intention to adopt mobile services in case of Syria (see Table 6.8).

Table 6.8 Summary Results of Hypotheses Testing for MSAMS

Hypo.	Exogenous Latent Constructs	Endogenous Latent Construct	Results	Explanation
$H1_{CS}$	Attitude toward M-Service (AS)	Adoption Intention towards Mobile Services (IS)	Not Rejected	(AA) significantly influenced (IA)
$H2_{CS}$	Subjective Norm (SS)	Adoption Intention towards Mobile Services (IS)	Not Rejected	(SA) significantly influenced
$H3_{CS}$	Perceived usefulness (US)	Adoption Intention towards Mobile Services (IS)	Not Rejected	(UA) significantly influenced (IA)
$H4_{CS}$	Compatibility with M-Services (CA)	Adoption Intention towards Mobile Services (IS)	*Rejected*	(CA) significantly influenced (IA)
$H5_{CS}$	Personal innovativeness (IN)	Adoption Intention towards Mobile Services (IS)	Not Rejected	(IN) significantly influenced (IA)

Thus, Mobile Services Adoption Model for Syria (MSAMS) posits four significant factors influencing intention to adopt mobile services viz. 1) Attitude towards mobile services (AS), 2) Subjective norm for mobile services (SS), 3) Perceived usefulness of mobile services (US), and 4) Personal innovativeness (IN) (Please see Figure 6.4).

Figure 6.4 Mobile Services Adoption Model for Syria (MSAMS)



6.5 SUMMARY OF KEY FINDINGS AND DISCUSSION

The present section presents a summary of the key findings of this study along with discussion.

1) Attitude Towards Mobile Advertising (AA) and Mobile Services (AS)

Both Indian and Syrian respondents were found to be having similar positive attitudes towards mobile advertising and services. In fact, attitudes towards mobile advertising and services were found to be most important motivating factor influencing intention to adopt mobile advertising and services among all factors, irrespective of the nationality of the respondents.

These results are consistent with the findings of several previous researchers (Bauer, *et al.*, 2005; Carlsson, *et al.*, 2006; Erumban & Jong, 2006; Teo & Pok, 2003) in the domain of mobile marketing. They too posited that attitude was an important factor affecting intention to adopt mobile advertising/services. Furthermore, the results are also consistent with the various theories of technology adoption viz. Theory of Reasoned Action (Ajzen & Fishbein, 1980), Theory of Planned Behaviour (Ajzen, 1985), and Technology Acceptance Model (Davis *et al.*, 1989).

It was also found that the gender does not affect the attitude towards mobile advertising and services. However, these findings contradict those of other researchers (Carlsson *et al.*, 2006; Okazaki, 2007b; Yang & Lester, 2005; Wolin, 2003).

2) Subjective Norm for Mobile Advertising (SA)

Significant differences were not observed between Indian and Syrian respondents regarding the subjective norm associated with mobile advertising (SA). However, significant differences were noticeable vis-a-vis influence of SA on intention to adopt mobile advertising for MAAMI and MAAMS. SA was found to be an important determinant of intention to adopt mobile advertising in case of MAAMI. These findings are consistent with various technology adoption theories such as TPB (Ajzen, 1985), TRA (Fishbein & Ajzen, 1975). They are also in line with findings of previous researchers such as Hartwick & Barki (1994), Lucas & Spitler (1999), Roger (1995), and Venkatesh & Morris (2000).

However, SA was not found to be a determinant of intention to adopt mobile advertising for Syria. Besides, it was found that the gender has no effect on SA. However, these findings contradict those of other researchers (Carlsson *et al.*, 2006; Okazaki, 2007b; Yang & Lester, 2005; Wolin, 2003).

3) Subjective Norm for Mobile Services (SS)

Findings suggest that Indian and Syrian respondents have similar subjective norm for mobile services. Moreover, SS was found to be a determinant of intention to adopt mobile services in both MSAMI and MSAMS. These findings too are consistent with various technology adoption theories such as TPB (Ajzen, 1985), TRA (Fishbein & Ajzen, 1975). They are also in line with findings of previous researchers such as Hartwick & Barki (1994), Lucas & Spitler (1999), Roger (1995), and Venkatesh & Morris (2000).

On the other hand, gender was found to have no effect on SS. These findings contradict those of Carlsson *et al.* (2006), Okazaki (2007b), Yang & Lester (2005), and Wolin (2003).

4) Perceived Usefulness of Mobile Advertising (UA)

Significant differences did not exist between Indian and Syrian respondents for perceived usefulness of mobile advertising. However, there were significant differences between the affect of perceived usefulness of mobile advertising on intention to adopt mobile advertising in the proposed models for India and Syria i.e. MAAMI & MAAMS. UA was found to be an important determinant of intention to adopt mobile advertising in case of Indian respondents only. These findings are consistent with those of previous researchers in the area of mobile advertising research (Merisavo, *et al.*, 2007; Nysveen, Pedersen & Thorbjørnsen, 2005b; and Pura, 2005). However, UA was not found to be a determinant of intention.

In addition, the effect of gender on UA was not found to be significant These findings contradict those of Carlsson *et al.* (2006), Okazaki (2007b), Yang & Lester (2005), and Wolin (2003).

5) Perceived Usefulness of Mobile Services (US)

Indian and Syrian respondents exhibited similarities in perceived usefulness for mobile services (US). Moreover, US was found to be second most important determinant of intention to adopt mobile services in the proposed models for India and Syria i.e. MAAMI and MAAMS. These results are consistent with findings of researchers in the context of information systems where perceived usefulness was shown to have significant effect on intention to adoption (Agarwal & Prasad, 1999; Davis *et al.*, 1989; Hu *et al.*, 1999; Jackson *et al.*, 1997; Venkatesh, 1999, 2000; Venkatesh & Davis, 1996, 2000; Venkatesh & Morris, 2000). Gender was found to have no effect on US. These findings contradict those of Carlsson *et al.* (2006), Okazaki (2007b), Yang & Lester (2005), and Wolin (2003).

6) Compatibility with Mobile Advertising (CA)

Although the compatibility with advertising was found to be different between Syrian and Indian respondents, it was found to be second most important determinant of intention to adopt mobile advertising in proposed models for India and Syria i.e. MAAMI and MAAMS. Many empirical studies have shown the compatibility of an innovation has a positive influence on the adoption of innovation (Cooper & Zmud, 1990; Hsu *et al.*, 2007; Kleijnen, Ruyter, & Wetzels, 2004; Tan & Teo, 2000; Teo & Pok, 2003; Tornatzky & Klein, 1982).

On the other hand, it was found that gender does affect the compatibility with advertising. Indian male respondents were found to be having a significantly lower compatibility with mobile advertising in comparison to both male and female respondents from Syria.

7) Compatibility with Mobile Services (CS)

Significant differences were observed between Syrian and Indian respondents for compatibility with mobile services (CS). The Indian respondents exhibited less compatibility with mobile services than Syrian respondents. However, CS was found to be a determinant of intention to adopt mobile services in case of proposed model for India i.e. MSAMI only. Strong evidence from many related empirical studies has supported that compatibility was a direct factor influencing

adoption of Internet banking (Tan & Teo, 2000), information technology (Cooper & Zmud, 1990), mobile games (Kleijnen *et al.*, 2004) and Multi Media Service (Hsu *et al.*, 2007).

8) Personal Innovativeness (IN)

The Indian and Syrian respondents exhibited similarities in the context of personal innovativeness. Moreover, personal innovativeness was not considered as a determinant of intention to adopt mobile advertising in the proposed models for India and Syria i.e. MAAMI and MAAMS. However, these results contradict those of Rogers (1995) as well as Hung, Ku & Chang (2003), Yang (2000), and Li (2004).

On the other hand, there was a difference regarding the affect of gender on personal innovativeness. It was found that Indian female respondents exhibited significantly lower levels of innovativeness than Indian male, Syrian male and Syrian female respondents.

9) Control of Mobile Advertising (C)

Although there were insignificant differences between Indian and Syrian respondents regarding the control of mobile advertising, significant differences were noticeable in the influence of control on intention to adopt mobile advertising between India and Syria. Control was regarded as an important determinant of intention to adopt mobile advertising in case of proposed model for India i.e. MAAMI. Previous researchers have posited control to be an important factor influencing consumer acceptance of mobile advertising (Bauer *et al.* 2005; Tsang *et al.*, 2004; Carroll, Barnes & Scornavacca, 2005).

However, control was not found to be a determinant of intention in case of Syria i.e. MAAMS. An empirical study in Finland indicated similar results that control is not an important driver of consumer acceptance of mobile advertising (Merisavo *et al.*, 2007).

In addition, gender was found to influence control. Indian male respondents showed significantly greater desire to have control on mobile advertising than Syrian female respondents.

10) Attitude Towards Mass Media Advertising (AM)

Although significant differences did not exists between Indian and Syrian respondents for attitude towards mass media advertising (AM), differences did exist in the effect of AM on intention to adopt mobile advertising between India and Syria. AM was not regarded as a determinant of intention to adopt mobile advertising for Indian respondents in MAAMI. However, it was considered as a determinant of intention to adopt for Syrian respondents in case of MAAMS. Moreover, findings suggest that gender does not have an effect on AM.

11) Awareness of Mass Media Advertising (AW)

Significant differences were observed between Indian and Syrian respondents in the context of awareness of mass media advertising (AW). Indian respondents showed higher levels of mass media advertising awareness than Syrian respondent.

However, significant differences were found in the effect of AW on intention to adopt mobile advertising between India and Syria. AW was found to be a determinant of intention to adopt mobile advertising for Indian respondents in MAAMI. Other researchers such as Bauer *et al.* (2005) also arrived at similar results. They found that one of the most important factors that had a bearing on attitude toward mobile marketing was the consumers' attitudes toward advertising in general. In MAAMS, however, AW was not emerged as a determinant of intention to adopt for Syrian respondents. On the other hand gender does not have an effect on AW.

12) Intention Towards Mobile Advertising (IA)

Syrian respondents showed a stronger intention to adopt mobile advertising (IA) than Indian respondents. Moreover, Syrian male students exhibited significantly higher levels of intention to adopt mobile advertising than Indian female and Indian male students. On the other hand, IA in the proposed model MAAMI was found to be influenced by six factors namely AA, SA, UA, CA, and AW. However, IA in MAAMS was found to be influenced by three factors only, namely AA, CA, and AM.

13) Intention Towards Mobile Services (IS)

Syrian respondents exhibited a stronger intention to adopt mobile services than Indian respondents. Moreover, Indian female respondents showed significantly lower levels of intention to adopt mobile services than Indian male, Syrian male and Syrian female respondents. Also, it was found that Indian male respondents have significantly lower levels of intention to adopt mobile services than Syrian male respondents. On the other hand, IS in MSAMI was found to be influenced by all five factors namely AS, SS, US, CS, and IN. However, IS in MSAMS was found to be influenced by four factors namely AS, SS, US, and IN.

6.6 THEORETICAL IMPLICATIONS

From a theoretical perspective, MAAMI, MAAMS, MSAMI, and MSAMS provide an understanding of the relationships between factors and adoption intention in the four models and increase the power of explanation of adoption intention of mobile advertising and mobile services across two countries namely India and Syria.

As already discussed, eight factors in the proposed research models (i.e. MAAMI and MAAMS) of mobile advertising were theorised on the lines of extant literature. The contributions of these two models from a theoretical perspective are listed below:

- *Firstly*, both attitude towards mobile ads (AA) and compatibility with mobile ads (CA) were found to be strongest influencers of adoption intention of mobile advertising for both India and Syria.
- *Secondly,* personal innovativeness (IN) was not found to be a determinant of adoption intention of mobile advertising in both Indian and Syrian context.
- *Thirdly,* four constructs [subjective norm for mobile ads (SA), perceived usefulness of mobile ads (UA), controlling mobile ads (C), and awareness of mass media ads (AW)] were found to be determinants of adoption intention of mobile advertising in the context of India but not Syria.

Five factors were considered in each of the proposed research model of mobile services for India and Syria (i.e. MSAMI and MSAMS). The contributions of these two models from a theoretical perspective are listed below:

- *Firstly*, attitude towards mobile services (AS) was found to be the strongest influencer of adoption intention of mobile services for both India and Syria.
- *Secondly,* perceived usefulness of mobile ads (UA) was found to be an important determinant of adoption intention of mobile advertising for both India and Syria.
- *Thirdly,* compatibility with mobile services was found to be a determinant of adoption intention of mobile advertising in case of India but not Syria.

An understanding of how the gender influences the various factors under consideration was important. Seven of the constructs [attitude towards mobile ads (AA), attitude towards mobile services (AS), subjective norm for mobile ads (SA), subjective norm for mobile services (SS), perceived usefulness of mobile ads (UA), perceived usefulness of mobile services (US), and attitude towards mass media ads (AM)] were not affected by gender. However, other seven constructs [compatibility with mobile ads (CA), compatibility with mobile services (CS), personal innovativeness (IN), control of mobile ads (C), awareness of mass media ads (AW), adoption Intention towards mobile ads (IA), and adoption intention towards mobile services (IS)] were found to be affected by gender. The contributions of the study in the context of gender from a theoretical perspective are listed below:

- *Firstly*, Indian male respondents were found to be having a significantly lower compatibility with mobile ads in comparison to both male and female respondents from Syria.
- *Secondly*, Indian female respondents exhibited significantly lower levels of innovativeness than Indian male, Syrian male and Syrian female respondents.
- *Thirdly,* Indian male respondents showed significantly greater desire to have control on mobile ads than Syrian female respondents.

In addition, knowing the differences between the two countries regarding each single construct in isolation from other constructs is important. Indian and Syrian respondents were found to be similar on nine constructs (AA, AS, SA, SS, UA, US, IN, C, AM). However, they were significantly different on other five constructs (CA, CS, AW, IA, and IS). In this context, from a theoretical perspective, the contributions of the present cross-cultural study are listed below:

- *Firstly*, both Indian and Syrian respondents showed lower compatibility with mobile ads, but Indian respondents exhibited slightly higher compatibility with mobile ads than respondents from Syria.
- *Secondly,* Syrian respondents exhibited higher compatibility with mobile services than Indian respondents.
- *Thirdly,* Indian respondents showed a higher awareness of mass media ads than Syrian respondents.
- *Fourthly,* Syrian respondents exhibited a stronger intention to adopt mobile advertising and services than Indian respondents.
- *Fifthly,* both Indian and Syrian respondents had positive attitude towards mobile advertising and services.
- *Sixthly*, both Indian and Syrian respondents exhibited that subjective norm has no bearing on mobile advertising or mobile services
- *Seventhly*, both Indian and Syrian respondents exhibited concern for the control of mobile advertising.

6.7 MANAGERIAL IMPLICATIONS

The findings of the study can provide valuable insights not only to academic researchers but also marketing professionals and telecommunication companies in the two countries i.e. India and Syria. The four models, MAAMI, MAAMS MSAMI, and MSAMS provide a deeper understanding of the relationships between key factors and adoption intentions and can be of immense help in promoting adoption of mobile advertising and services in India and Syria.

1) Managerial Implications: India

In the context of *mobile advertising*, as mentioned earlier, the four factors that help promote mobile advertising, in decreasing order of importance, were found to be (1) Attitude towards mobile ads (AA), (2) Compatibility with mobile ads (CA), (3) Perceived usefulness of mobile ads and (4) Subjective norm for mobile advertising (SA). Mobile telecommunication companies attempting to motivate consumers to adopt mobile advertising need to utilise this information effectively when formulating marketing policies and strategies. The marketing managers (1) should be aware of consumers' attitude toward mobile advertising (2) explain how mobile ads can be compatible with different lifestyles (3) pay more attention to promotion of the utilities/usefulness of mobile ads, and (4) consider the social context in which the mobile advertising can be beneficial. These steps can certainly help promote adoption of mobile advertising.

In the context of *mobile services*, of the five determinants of intention to use mobile services, three emerged as most important viz. 1) Attitude towards mobile services (AS), 2) Subjective norm for mobile services (SS), and 3) Perceived usefulness of mobile services (US), in that order. Understanding the mechanism that drives consumers' intention to use mobile services is of vital importance for marketing managers when developing new services and deciding on marketing campaigns. Marketing managers (1) should be aware of consumer attitude toward mobile services (2) consider the social context in which the mobile services are being used, and (3) pay more attention to promotion of the utilities/usefulness of mobile services.

2) Managerial Implications: Syria

In the context of *mobile advertising*, as mentioned earlier, two of the three factors were identified as most important determinants of intention to use mobile advertising viz. 1) Attitude towards mobile ads (AA), 2) Compatibility with mobile ads (CA) several factors need to be considered. Therefore, the marketing managers when attempting to promote mobile advertising (1) should be aware of consumer attitude toward mobile advertising (2) explain how mobile ads can be compatible with different lifestyles. Thus, the attitude toward mobile advertising

and compatibility dimensions should be taken into consideration while deciding on marketing polices and strategies.

In the context of *mobile services*, of the five factors, two emerged as most important viz. 1) Attitude towards mobile services (AS), 2) Perceived usefulness of mobile services (US). The more positive the attitude towards mobile services and perceive usefulness, the greater these factors encourage consumers to adopt mobile services. Therefore, marketers (1) should be aware of consumer attitude towards mobile services, and (2) promote the benefits and utilities associated with using of mobile services. In addition, our findings suggest that levels of consumer innovativeness do matter when it comes to adopting mobile services; therefore, marketing managers while deciding on marketing mix elements need to recognize and appreciate the importance of consumer innovation.

Based on the above, it can be safely surmised that key findings emerging from the various models considered for the study i.e. MAAMS, MAAMI, MSAMI, and MSAMS can be of invaluable help to marketing practitioners and mobile companies alike in formulating appropriate marketing strategies that can help attract and retain existing customers.

6.8 LIMITATIONS OF THE STUDY

The present study, just like any other similar study, suffers from certain limitations which are discussed below. *Firstly*, a convenience sample of students was used in this research, which limits the generalizability of the findings. *Secondly*, the student respondents, who are more familiar with information technology than the general consumer population, might see mobile advertising and services as more acceptable than other samples. *Thirdly*, this study did not include many socio-demographic variables in our analysis; though the variable gender was considered. Other variables such as level of education, income profile, age, rural-urban, etc. could have been included in our analysis and which could have been of help in predicting the intention and adoption of mobile advertising and services. *Fourthly*, this study did not examine the causality and interrelationship between the factors influencing the intention. *Fifthly*, it did not consider the effect of gender as a moderating variable in the two models considered in the study. *Sixthly*, some amount of bias may have crept in as the

samples from the two countries were not identical in terms of educational level. Majority of respondents from India were enrolled in masters level programmes whereas most of the Syrian respondents were at graduation level. *Lastly*, although the mobile telecommunication infrastructures in India and the Syria are similar, yet pricing structures are markedly different. The present study does not cover the effect of differential tariff on the adoption intention.

6.9 SUGGESTIONS FOR FUTURE RESEARCH

Future research can certainly be of help in providing a more detailed and grounded theoretical framework for analysing intention towards adoption of mobile marketing. Researchers may consider using a more general and representative population of mobile users and investigate and examine other factors that could further explain consumer's behavioural intention towards the adoption of mobile advertising as well as mobile services.

The present study is cross-sectional; that is, it measures perceptions and intentions at a single point in time. However, perceptions change over time as individuals gain experience (Mathieson *et al.*, 2001; Venkatesh & Davis, 1996). This change has implications for researchers and practitioners interested in predicting mobile advertising and services usage over time. A dynamic model or longitudinal evidence would not only help predict beliefs and behavior over time, but also enhance our understanding of the causality and interrelationships between variables, that are important to individuals' adoption of mobile advertising and services.

Perceived usefulness was found in this study to influence adoption intention. Researchers (Pura, 2005; Standing, Benson & Karjaluoto, 2005; Tsang, Ho & Liang, 2004; Tähtinen & Salo, 2004) have highlighted that the usefulness is related to entertainment and informativeness of the mobile advertising content as well as saving money, saving time and providing useful information. Thus, future research should focus on the content of mobile advertising messages as well as on the benefits associated with using mobile services.

Since compatibility is another key determinant of intention, it is important to ensure that mobile advertising and services fit well with the existing values and lifestyles of consumers. To achieve that, it is important to understand how

mobile advertising and services can be made to be more compatible with the adopters' lifestyles and needs. So, additional research is a need in the context of compatibility.

Consumers consider their mobile phone a very private item and are extremely sensitive about the messages they receive. This creates numerous challenges for marketers. Thus, there is a need to investigate issues related to privacy and risk associated with mobile advertising and services.

Researchers may replicate this study in other countries and cultures on respondents with varied occupational backgrounds to validate the findings of the present study so as to improve its generalizability.

6.10 SUMMARY

This chapter summarises the key findings of the study according to the research objectives along with discussion. Later on, it sheds light on the theoretical and managerial implications of the study.

In case of MAAMI, the constructs that were found to be playing an important role in determining adoption intention of mobile advertising are AA, SA, UA, CA, C and AW. However, for MAAMS, only AA, CA and AM were observed to be playing a significant role in determining behaviour intention. On the other hand, in MSAMI, the constructs that play an important role in determining adoption intention of mobile services are AS, SS, US, CA, and IN. However, in case of MSAMS, the constructs AS, SS, US, and IN play important roles in determining adoption intention of mobile services.

The key findings from this research together with the mobile advertising and services adoption models generated are expected to provide valuable insights and understanding not only to the mobile telecommunication companies in India and Syria but also to marketing practitioners and consumers. Future researchers may take a cue and replicate the study in the context of other countries and cultures. However, it would be unrealistic to expect consistent levels of adoption of mobile advertising and services across the world and the search for a single global killer model may perhaps be misguided.

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APPENDIX A

QUESTIONNAIRE

(English Version)

Department of Business Administration
Faculty of Management Studies & Research
Aligarh Muslim University, Aligarh, India.

QUESTIONNAIRE SURVEY

Dear Respondent,

The present study is part of doctoral level work that I am pursuing at the Department of Business Administration and Research, Faculty of Management, Aligarh Muslim University, Aligarh, India.

We would like to invite you to provide your valuable feedback to understand the factors affecting adoption of mobile advertising and services. You are requested to kindly go through the following explanation of the terms viz. mobile services and mobile advertising in the context they have been used in the present study.

Mobile Services means getting through a mobile phone news (e.g. business, sport, and stock news), weather forecasts, ticket reservation, phone directory, address of a place, bank money transfer, balance check, and etc.

Mobile Advertising means that the mobile service provider can contact you through SMS, MMS, or Voice to tell you about new products/ services, discount being offered on certain products, services, brands, etc.

We would appreciate hearing your opinion and we assure you that the data would only be used for academic purposes and at no stage will you be asked to reveal your identity. Thanks!

(KAMAAL ALLIL)

Please read the following table before answering Section A.

Mobile service provider / advertiser can contact you through SMS, MMS, or Voice to tell you about:	
Mobile Advertising	**Mobile Services**
➢ New products/ services ➢ Discount being offered on certain products, services, brands, etc.	➢ News: business, sport, stock, etc. ➢ Weather forecasts ➢ Ticket reservation ➢ Phone directory & address of a place ➢ Bank money transfer, balance check

SECTION A

Please rate the extent to which you agree with each statement below. Please tick (√)

1=Strongly Agree & 5=Strongly Disagree		1	2	3	4	5
I think Mobile Advertising is	1. necessary	1	2	3	4	5
	2. useful	1	2	3	4	5
	3. interesting	1	2	3	4	5
	4. satisfying	1	2	3	4	5
	5. informative	1	2	3	4	5
	6. fashionable	1	2	3	4	5
I think Mobile Service is	1. necessary	1	2	3	4	5
	2. useful	1	2	3	4	5
	3. interesting	1	2	3	4	5
	4. satisfying	1	2	3	4	5
	5. informative	1	2	3	4	5
	6. fashionable	1	2	3	4	5

1=Strongly Agree & 5=Strongly Disagree	1	2	3	4	5
1. I intend to use mobile advertising in the future	1	2	3	4	5
2. I intend to use mobile services in the future	1	2	3	4	5
3. I will strongly recommend others to use Mobile Advertising	1	2	3	4	5
4. I will strongly recommend others to use Mobile Services	1	2	3	4	5
5. I want to be among the first ones to try out Mobile Advertising	1	2	3	4	5
6. I want to be among the first ones to try out Mobile Services	1	2	3	4	5
7. I think using Mobile Advertising will help me feel acceptable among my friends/family	1	2	3	4	5
8. I think using Mobile Services will help me feel acceptable among my friends/family	1	2	3	4	5
9. I must have the power to decide whether to receive Mobile Advertising or mobile services	1	2	3	4	5

Please rate the extent to which you agree with each statement below. Please tick (√)

1=Strongly Agree & 5=Strongly Disagree		1	2	3	4	5
I think using Mobile Advertising	1. will make a good impression on other people	1	2	3	4	5
	2. will give me social approval	1	2	3	4	5
	3. fits well with my lifestyle	1	2	3	4	5
	4. fits well with my needs	1	2	3	4	5
	5. suits all aspects of my life	1	2	3	4	5
	6. will save my money	1	2	3	4	5
	7. will save my time	1	2	3	4	5
I think using Mobile Services	1. will make a good impression on other people	1	2	3	4	5
	2. will give me social approval	1	2	3	4	5
	3. fits well with my lifestyle	1	2	3	4	5
	4. fits well with my needs	1	2	3	4	5
	5. suits all aspects of my life	1	2	3	4	5
	6. will save my money	1	2	3	4	5
	7. will save my time	1	2	3	4	5

1=Strongly Agree & 5=Strongly Disagree	1	2	3	4	5
1. I would only be prepared to receive Mobile Advertising if I had given my permission	1	2	3	4	5
2. I would not like to receive too many Mobile advertisements	1	2	3	4	5
3. It is important for me that I can refuse to receive Mobile advertisements	1	2	3	4	5
4. It is important for me that I can filter Mobile advertisements to match my needs	1	2	3	4	5
5. I would like to receive Mobile advertisements only at particular times.	1	2	3	4	5
6. It is important for me that I can control the permission to receive Mobile advertisements	1	2	3	4	5
7. I think participating in Mobile Advertising is fun	1	2	3	4	5
8. I think participating in mobile services is fun	1	2	3	4	5
9. I think Mobile Advertising is useful in gathering information	1	2	3	4	5
10. I think Mobile Services are useful in gathering information	1	2	3	4	5

SECTION B

Please rate the extent to which you agree with each statement below. Please tick (∨)

1=Strongly Agree & 5=Strongly Disagree	1	2	3	4	5
1. I generally pay attention to advertising	1	2	3	4	5
2. In general advertising is pleasant	1	2	3	4	5
3. Commercials in TV programs annoy me	1	2	3	4	5
4. Advertising on Web pages (banners, pop-ups) irritate me	1	2	3	4	5
5. I frequently read newspaper advertisements	1	2	3	4	5
6. I frequently read magazine advertisements	1	2	3	4	5
7. I frequently watch television advertisements	1	2	3	4	5
8. I frequently click on Internet advertisements	1	2	3	4	5
9. Often I try new things before my friends do	1	2	3	4	5
10. I really like collecting interesting information and recommending new things to my friends	1	2	3	4	5
11. I must see other people using innovations before I will consider them.	1	2	3	4	5
12. I am usually eager to try a new thing as soon as it is available	1	2	3	4	5

1. Mobile Usage Habits

	Number
1. How many *calls* on an average do you receive a day?	Number
2. How many *calls* on an average do you make in a day?	Number
3. How many *SMS/MMS* do you send in a day?	Number
4. How many *SMS/MMS* do you receive in a day?	Number

2. My connection is Prepaid ☐ Postpaid ☐

3. My average monthly mobile expenditure is Rs.....

4 Age: 14-19 ☐ 20-25 ☐ 26-30 ☐ 31-40 ☐ 41-60 ☐

5. Gender: Male ☐ Female ☐

6. Marital status: Single ☐ Married ☐

7. Current class Undergraduate ☐ Graduate ☐ Postgraduate ☐ PhD ☐

8. University name:

The Questionnaire ends here, thank you very much for your participation!

APPENDIX B

QUESTIONNAIRE

(Arabic Version)

قسم إدارة الأعمال
كلية الإدارة و البحوث
جامعة أليغار مسلم
الهند

إستبانـــــــة

السلام عليكم ورحمة الله وبركاته:

أنا طالب دكتوراة في قسم إدارة الأعمال, جامعة أليغار مسلم, الهند.

هذه الإستبانة جزء من دراسة ميدانية بعنوان "*العوامل التي تؤثر في قبول إعلانات و خدمات الموبايل*" بهدف معرفة العوامل التي تؤثر في قبول إستقبال إعلانات من خلال الموبايل بالإضافة إلى إستخدام خدمات الموبايل.

خدمات الموبايل تتضمن إستقبال أخبار (البورصة أوالرياضة أو التجارة أو الطقس), أو حجز تذكرة سفر أو إجراء معاملة بنكية (تحويل نقود) من خلال الموبايل.

إعلانات الموبايل تشمل الإعلان عن منتجات أو خدمات جديدة مطروحة في الأسواق أو إعلان عن عروض و تنزيلات لمنتجات وخدمات معينة.

يرجى تعبئة فقرات الاستبانة ووضع إشارة (√) أمام العبارة التي تراها مناسبة، مع العلم بأن هذه الدراسة تجرى من أجل البحث العلمي فقط وليس لها أغراض أخرى.

الباحث
كمال الليل

الجدول التالي يصف بشكل مختصر الفرق بين خدمات الموبايل وإعلاناته من خلال بعض الأمثلة. يرجى قراءته قبل الإجابة على الأسئلة:

يستطيع مُزود خدمة الموبايل أو المُسوق الاتصال بك من خلال إرسال رسالة نصية أو صوتية أو إجراء مكالمة لإعلامك عن :	
إعلانات الموبايل	خدمات الموبايل
إعلان عن منتجات و خدمات جديدة مطروحة في الأسواق إعلان عن عروض و تنزيلات لمنتجات وخدمات معينة	أخبار البورصة والرياضة و التجارة أخبار الطقس حجز تذكرة سفر أرقام هواتف وعناوين معاملات بنكية (تحويل نقود)

الجزء الأول: يرجى الإجابة عن كل سؤال بوضع إشارة صح أمام الإجابة التي تنطبق عليك.

1= موافق بشدة 2 = موافق 3= حيادي 4= أرفض 5= أرفض بشدة						
أعتقد أن الإعلانات عن طريق الموبايل	ضرورية	1	2	3	4	5
	مفيدة	1	2	3	4	5
	ممتعة	1	2	3	4	5
	مرضية	1	2	3	4	5
	إخبارية	1	2	3	4	5
	موضة	1	2	3	4	5
أعتقد أن الخدمات عن طريق الموبايل	ضرورية	1	2	3	4	5
	مفيدة	1	2	3	4	5
	ممتعة	1	2	3	4	5
	مرضية	1	2	3	4	5
	إخبارية	1	2	3	4	5
	موضة	1	2	3	4	5

1= موافق بشدة 2 = موافق 3= حيادي 4= أرفض 5= أرفض بشدة					
أرغب في استقبال إعلانات الموبايل في المستقبل	1	2	3	4	5
أرغب في استخدام خدمات الموبايل في المستقبل	1	2	3	4	5
سأقترح للآخرين إستخدام خدمات الموبايل	1	2	3	4	5
سأقترح للآخرين استقبال اعلانات الموبايل	1	2	3	4	5
أريد أن أكون من بين الأوائل الذين يستقبلون إعلانات الموبايل	1	2	3	4	5
أريد أن أكون من بين الأوائل الذين يستخدمون خدمات الموبايل	1	2	3	4	5
أعتقد أن إعلانات الموبايل سوف تساعد على تحسين مكانتي بين أصدقائي وعائلتي	1	2	3	4	5
أعتقد أن خدمات الموبايل سوف تساعد على تحسين مكانتي بين أصدقائي و عائلتي	1	2	3	4	5
يجب أن أخبر بين استقبال خدمات الموبايل أو إعلانات الموبايل	1	2	3	4	5

1= موافق بشدة 2 = موافق 3= حيادي 4= أرفض 5= أرفض بشدة						
أعتقد أن استقبال إعلانات الموبايل	تترك إنطباعاً جيداً عند الآخرين	1	2	3	4	5
	تمنحني قبولاً أجتماعياً	1	2	3	4	5
	تناسب إسلوب حياتي	1	2	3	4	5
	تتفق مع احتياجاتي	1	2	3	4	5
	تناسب اهتماماتي	1	2	3	4	5
	تحقق لي وفراً مادياً	1	2	3	4	5
	تختصر الوقت	1	2	3	4	5
أعتقد أن استخدام خدمات الموبايل	تترك إنطباعاً جيداً عند الآخرين	1	2	3	4	5
	تمنحني قبول أجتماعي	1	2	3	4	5
	تناسب إسلوب حياتي	1	2	3	4	5
	تتفق مع احتياجاتي	1	2	3	4	5
	تناسب اهتماماتي	1	2	3	4	5
	تحقق لي وفراً مادياً	1	2	3	4	5
	تختصر الوقت	1	2	3	4	5

1= موافق بشدة 2 = موافق 3= حيادي 4= أرفض 5= أرفض بشدة						
	سأقرأ اعلانات الموبايل بعد إعطاء الموافقة على استقبالها	1	2	3	4	5
	لا أرغب باستقبال الكثير من اعلانات الموبايل	1	2	3	4	5
	من المهم أن أستطيع إيقاف إعلانات الموبايل	1	2	3	4	5
	من المهم أن أستطيع تحديد إعلانات الموبايل بما يتفق مع احتياجاتي	1	2	3	4	5
	أرغب باستقبال إعلانات الموبايل في أوقات معينة	1	2	3	4	5
	من المهم أن أستطيع التحكم بإعلانات الموبايل	1	2	3	4	5
	أعتقد أن الإشتراك باعلانات الموبايل شيء مسلي	1	2	3	4	5
	أعتقد أن أستخدام خدمات الموبايل شيء ممتع	1	2	3	4	5
	أعتقد أن إعلانات الموبايل ستكون مفيدة في جمع معلومات	1	2	3	4	5
	أعتقد أن خدمات الموبايل ستكون مفيدة في جمع معلومات	1	2	3	4	5

الجزء الثاني: يرجى الإجابة عن كل سؤال بوضع إشارة صح أمام الإجابة التي تنطبق عليك

1= موافق بشدة 2 = موافق 3= حيادي 4= أرفض 5= أرفض بشدة	1	2	3	4	5
أهتم بالاعلانات عادة	1	2	3	4	5
الاعلانات شيء ممتع بشكل عام	1	2	3	4	5
إعلانات التلفاز مزعجة بشكل عام	1	2	3	4	5
إعلانات الإنترنت مزعجة بشكل عام	1	2	3	4	5
أقرأ اعلانات الجرائد بانتظام	1	2	3	4	5
أقرأ اعلانات المجلات بانتظام	1	2	3	4	5
أشاهد إعلانات التلفاز بانتظام	1	2	3	4	5
أنقر على اعلانات الإنترنت بانتظام	1	2	3	4	5
عادة أقوم باستخدام خدمات جديدة قبل أصدقائي	1	2	3	4	5
استمتع بجمع المعلومات الجديدة وأنصح أصدقائي بها	1	2	3	4	5
أعتقد أن أولى الأشخاص يستخدمون الأشياء الجديدة قبل أن أقوم باستخدامها	1	2	3	4	5
أحب تجريب الأشياء الجديدة حال توفرها في السوق	1	2	3	4	5

يرجى الإجابة عن الأسئلة التالية :

	العدد
[illegible]	
كم مكالمة تتصل يوميا تقريباً	
[illegible]	
كم رسالة موبايل تستلم يوميا تقريباً	

خطتي هو: مسبق الدفع (بطاقات) ☐ ملحق الدفع(فاتورة) ☐

المعدل الوسطي لفاتورة موبايلي الشهرية هو: ..... ل.س

العمر: ☐ 19-14 ☐ 25-20 ☐ 30-26 ☐ 40-31 ☐ 60-41

الجنس: ذكر ☐ أنثى ☐ **الحالة الاجتماعية:** عازب ☐ متزوج ☐

المستوى العلمي: جامعة ☐ دبلوم عالي ☐ ماجستير ☐ دكتوراه ☐

اسم الجامعة:

إنتهت الإسئلة, شكراً جزيلاً لمشاركتك

APPENDIX C

Reliability Analysis, Factor Loadings, and Items Retained for All Constructs

Reliability Analysis, Factor Loadings, and Items Retained for Attitude towards Mobile Advertising and Services

Constructs	Items		Reliability				Factor loading				Number of factors extracted				Items retained	
			India		Syria		India		Syria		India		Syria		India	Syria
			Before	After	Before	After	Before	After	Before	After	Before	After	Before	After		
Attitude towards mobile advertising (AA)	AA1	I think mobile advertising would be necessary	.635	.643	.517	.598	.440	.687	.645	.559	1	1	2	1	√	√
	AA2	I think mobile advertising would be useful					.469	.616	.643	.606					√	√
	AA3	I think mobile advertising would be interesting					.468	–	.471	.603					–	√
	AA4	I think mobile advertising would be satisfying					.600	.390	.402	–					√	–
	AA5	I think mobile advertising would be fashionable					.160	–	.824	–					–	–
Attitude towards mobile services	AS1	I think mobile services would be necessary	.653	.617	.573	.668	.606	.680	.522	.615	2	1	2	1	√	√
	AS2	I think mobile services would be useful					.589	.692	.465	.729					√	√
	AS3	I think mobile services would be interesting					.573	–	.416	.500					–	√
	AS4	I think mobile services would be satisfying					.605	.379	.476	–					√	–
	AS5	I think mobile services would be fashionable					.632	–	.687	–					–	–

Reliability Analysis, Factor Loadings, and Items Retained for Intention to Adopt Mobile Advertising and Services.

Constructs	Items		Reliability				Factor loading				Number of factors extracted				Items retained	
			India		Syria		India		Syria		India		Syria		India	Syria
			Before	After	Before	After	Before	After	Before	After	Before	After	Before	After		
Intention to adopt mobile advertising (IA)	IA1	I intend to use mobile advertising in the future	.675	.675	.658	.500	.684	.684	.762	.823	1	1	1	1	√	√
	IA2	I will strongly recommend others to use mobile advertising					.639	.639	.298	–					√	–
	IA3	I want to be among the first ones to try out mobile advertising					.518	.518	.746	.823					√	√
Intention to adopt mobile services (IS)	IS1	I intend to use mobile services in the future	.700	.700	.596	.500	.667	.667	.668	.752	1	1	1	1	√	√
	IS2	I will strongly recommend others to use mobile services					.675	.675	.366	–					√	–
	IS3	I want to be among the first ones to try out mobile services					.561	.561	.662	.752					√	√

Reliability Analysis, Factor Loadings, and Items Retained for Subjective Norm for Mobile Advertising and Services

Constructs	Items		Reliability				Factor loading				Number of factors extracted				Items retained	
			India		Syria		India		Syria		India		Syria		India	Syria
			Before	After	Before	After	Before	After	Before	After	Before	After	Before	After		
Subjective Norm (SA)	SA1	I think using mobile advertising will help me feel acceptable among my friends/family	.672	.672	.724	.724	.553	.553	.619	.619	1	1	1	1	√	√
	SA2	M-ad will make a good impression on other people					.611	.611	.635	.635					√	√
	SA3	M-ad will give me social approval					.657	.657	.685	.685					√	√
Subjective Norm (SS)	SS1	I think using mobile services will help me feel acceptable among my friends/family	.672	.672	.700	.700	.541	.541	.564	.564	1	1	1	1	√	√
	SS2	Mobile services will make a good impression on other people					.638	.638	.611	.611					√	√
	SS3	Mobile services will give me social approval					.649	.649	.710	.710					√	√

Reliability Analysis, Factor Loadings, and Items Retained for Perceived Usefulness of Mobile Advertising and Services

Constructs	Items		Reliability				Factor loading				Number of factors extracted				Items retained	
			India		Syria		India		Syria		India		Syria		India	Syria
			Before	After	Before	After	Before	After	Before	After	Before	After	Before	After		
Perceived Usefulness (UA)	UA1	I think mobile advertising would be informative	.628	.537	.607	.645	.426	.546	.113	–	2	1	1	1	√	–
	UA2	M-ads will save my money					.808	–	.498	.561					–	√
	UA3	M-ads will save my time					.777	–	.515	.583					–	√
	UA4	I think participating in mobile advertising is fun					.525	.428	.296	–					√	–
	UA5	I think m-ads is useful in gathering information					.615	.586	.586	.618					√	√
Perceived Usefulness (US)	US1	I think mobile services would be informative	.639	.686	.612	.582	.204	–	.315	–	1	1	1	1	–	–
	US2	Mobile services will save my money					.617	.730	.368	.514					√	√
	US3	Mobile services will save my time					.619	.714	.540	.643					√	√
	US4	I think participating in mobile services is fun					.202	–	.264	–					–	–
	US4	I think mobile services are useful in gathering information					.448	.404	.546	.507					√	√

Reliability Analysis, Factor Loadings, and Items Retained for Controlling Mobile Advertising and Services

Constructs	Items		Reliability				Factor Loading				Number of factors extracted				Items retained	
			India		Syria		India		Syria		India		Syria		India	Syria
			Before	After	Before	After	Before	After	Before	After	Before	After	Before	After		
Control	C1	I must have the power to decide whether to receive mobile advertising or mobile services	.743	.712	.540	.653	.343	–	.602	–	1	1	2	1	–	–
	C2	I would only be prepared to receive mobile advertisements if I had given my permission					.426	–	.510	–					–	–
	C3	It is important for me that I can refuse to receive mobile advertising					.573	.690	.453	.556					√	√
	C4	It is important for me that I can filter mobile advertisements to match my needs					.580	.640	.564	.586					√	√
	C5	I would like to receive mobile advertising only at particular times.					.257	–	.399	–					–	–
	C6	It is important for me that I can control the permission to receive mobile advertising					.501	.576	.623	.649					√	√

Reliability Analysis, Factor Loadings, and Items Retained for Compatibility with Mobile Advertising and Services

Constructs	Items		Reliability				Factor Loading				Number of factors extracted				Items retained	
			India		Syria		India		Syria		India		Syria		India	Syria
			Before	After	Before	After	Before	After	Before	After	Before	After	Before	After		
Compatibility (CA)	CA1	Mobile advertisements fits well with my lifestyle	.748	.748	.841	.841	.738	.738	.738	.738	1	1	1	1	√	√
	CA2	Mobile advertisements fits well with my needs					.718	.718	.794	.794					√	√
	CA3	Mobile advertisements suits all aspects of my life					.543	.543	.746	.746					√	√
Compatibility (CS)	CS1	Mobile services fits well with my lifestyle	.788	.788	.810	.810	.758	.758	.698	.698	1	1	1	1	√	√
	CS2	Mobile services fits well with my needs					.732	.732	.779	.779					√	√
	CS3	Mobile services suits all aspects of my life					.631	.631	.700	.700					√	√

Reliability Analysis, Factor Loadings, and Items Retained for Personal Innovativeness (IN) and Attitude towards Mass Media Ads (AM)

Constructs	Items		Reliability				Factor loading				Number of factors extracted				Items retained	
			India		Syria		India		Syria		India		Syria		India	Syria
			Before	After	Before	After	Before	After	Before	After	Before	After	Before	After		
Innovativeness (IN)	IN1	Often I try new things before my friends do	.452	.657	.577	.652	.620	.626	.613	.623	1	1	1	1	√	√
	IN2	I really like collecting interesting information and recommending new things to my friends					.600	.597	.482	.549					√	√
	IN3	I must see other people using innovations before I will consider them.					.015	–	.156	–					–	–
	IN4	I am usually eager to try a new thing as soon as it is available					.560	.565	.594	.596					√	√
Attituded towards Mass Media Ads (AM)	AM1	I pay attention to advertisements generally	.414	.707	.365	.723	.775	.774	.784	.783	2	1	2	1	√	√
	AM2	Advertising is pleasant in general					.775	.774	.785	.783					√	√
	AM3	Commercials in TV programs annoy me					.663	–	.620	–					–	–
	AM4	Advertising on Web pages (banners, pop-ups) irritate me					.661	–	.622	–					–	–

Reliability Analysis, Factor Loadings, and Items Retained for Awareness of Mass Media Ads (AW)

Constructs	Items		Reliability				Factor loading				Number of factors extracted				Items retained	
			India		Syria		India		Syria		India		Syria		India	Syria
			Before	After	Before	After	Before	After	Before	After	Before	After	Before	After		
Ads_awareness (AW)	AW1	I frequently read newspaper advertisements	.694	.732	.699	.699	.655	.722	.639	.732	1	1	1	1	√	√
	AW2	I frequently read magazine advertisements					.690	.733	.657	.720					√	√
	AW3	I frequently watch television advertisements					.505	.508	.363	–					√	–
	AW4	I frequently click on Internet advertisements					.290	–	.455	.433					–	√